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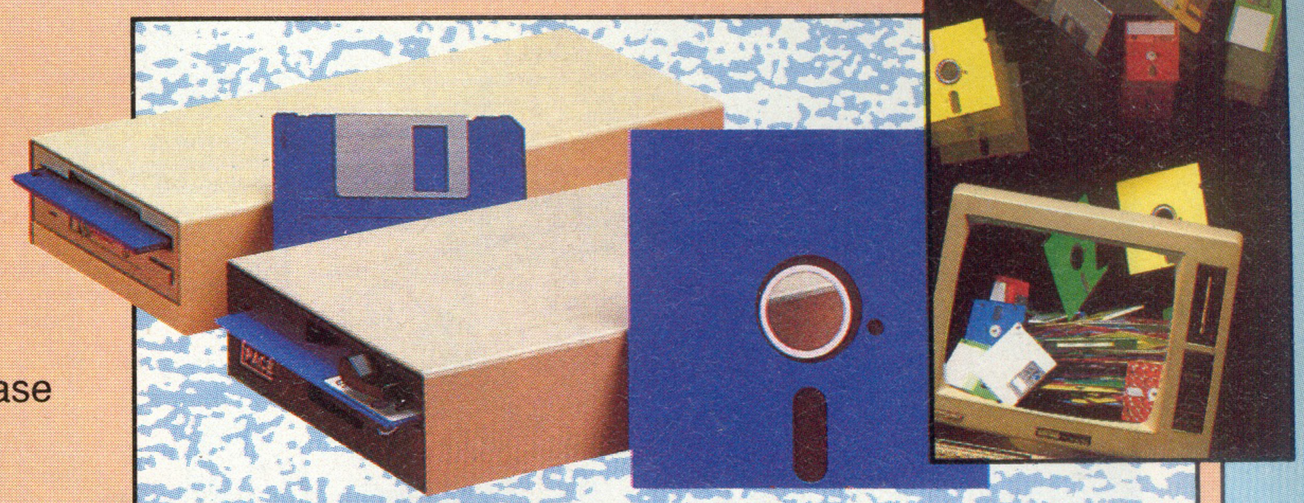

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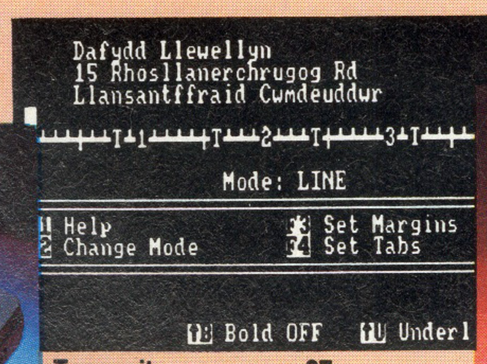

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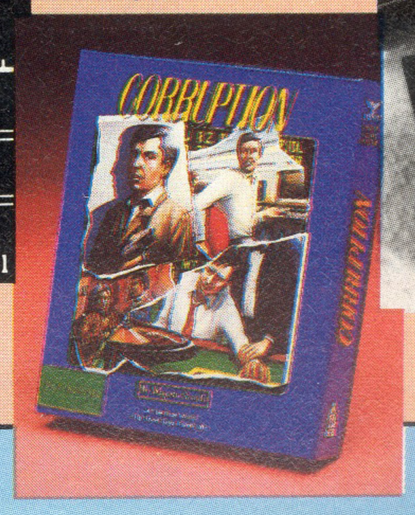

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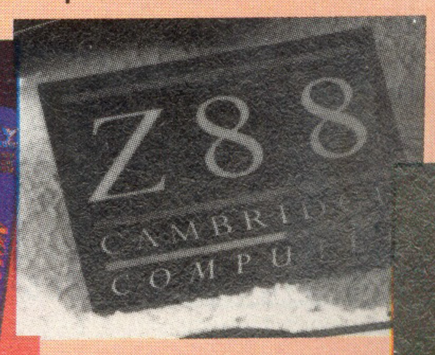

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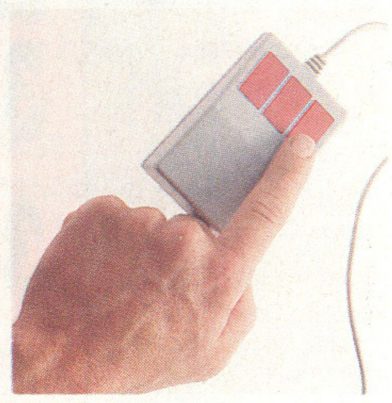

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WHO'S BEHIND?

Cast your mind back to 1957. A young Alan Sugar is on some sort of parade, marching in an East End street as his parents watch proudly. 'Look', says his mum, 'everyone's out of step except our Alan'.

The funny thing is, if his mum said that about him today, she'd be right. 'Proper' computer manufacturers are rushing headlong into newer and bigger products all the time, while Sugar's Amstrad plc stack up massive profits (£5 per second, it is calculated) by selling yesterday's product. Why?

Computers up till very recently have been a hobbyist's item, restricted to a band of people with their own jargon who were more interested in writing a program to enable their kit computer A to read a file from kit computer B than they were with actually printing out the contents of the file. Which was probably just as well. Just like the motor car in its early days, computers were a minority thing whi ch needed huge investments of money and maintenance time.

Sugar's philosophy – as with his audio products – was simple: get cheap old gear, package it up for Joe and Jane punter to make things easy for them, and never settle for less than huge profit margins. Take the technology to the market instead of waiting for the market to come to the technology.

The thing is, most of the industry don't seem to have cottoned on to this fact. Not everyone who could benefit from owning a computer either at work or at home wants to spend hours and hours of time learning all about their operating systems, reading the magazines to find the best printer/keyboard/software/monitor to go with their computer (which came without all of those), and generally working for nothing. Normal people's priorities about computer systems do not include what megahertz the thing runs, what chip it runs on, or even who made it. After all, do you spend hours agonising over the make of carburettor you want in your next car, or who made the shock absorbers, or how many seconds it takes to accelerate between fifty and seventy?

No, you buy a car because it's affordable, reliable, comfortable and easy to run (hence the death of awkward non-standards such as petrol injection, the sloth of the Diesel market, the disappearance of the Wankel engine etc. – if only there were a remotely similar set of standards in computing as in the car market!) But how many computers can be described as any of those, particularly comfortable and easy to run?

As the big boys carry on trying to develop the biggest machines first, the boys and girls from Amstrad continue to mop up the 'lower end' of the market – which is about 95% of it. Maybe it's everyone else who is out of step?

Rob Ainsley

Apply within

8000 Plus is looking for an editor for the magazine here in the centre of Bath.

We're looking for someone who has plenty of experience in the magazine world and, most important, can identify and satisfy the requirements of readers. An aptitude for desktop publishing clearly helps too. As well as this you'll have a PCW, a sense of humour, and the ability to fool all of the people all of the time.

Send a covering letter and a cv to: *Kevin Cox, Future Publishing, 4 Queen St, Bath BA1 1EJ* and mark the envelope 'Editorial Vacancy' or something in the top corner.

(Sorry, scandalmongers, the current incumbent is *not* being sacked for gross misconduct, nor has he renounced the publishing world to go on a commune in India. Rob Ainsley is moving on to edit Future's newest publication, the weekly news magazine *New Computer Express,* 48p from newsagents everywhere. There's a PCW column in there, so you can keep up not only with the general computing scene but also with the very latest PCW news.)

Open and shut case

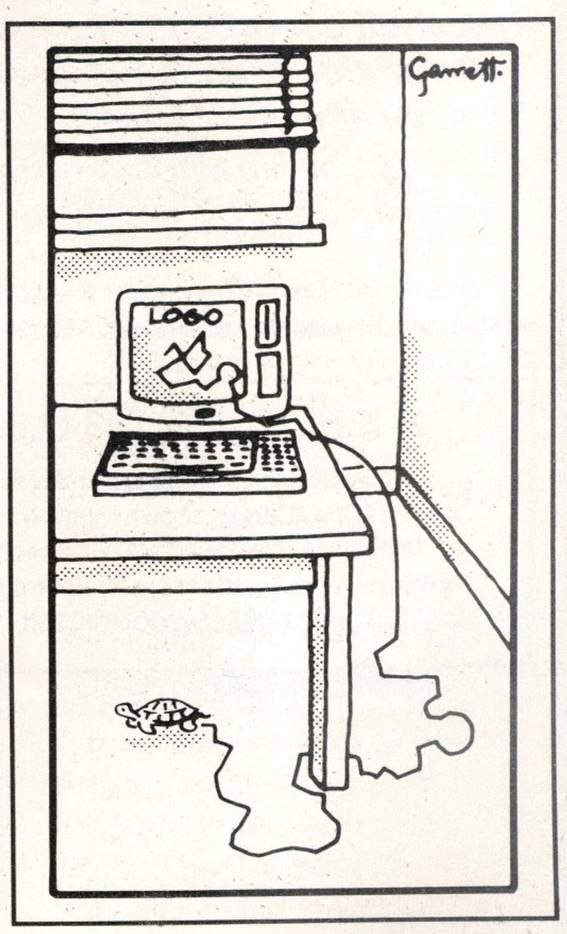
Last month we published a letter from a Mr Armstrong lamenting the discontinuation of those clear plastic disc cases that have been superseded by plastic wallets. Those boxes aren't necessary, we said. Rubbish, quite a few of you have retorted, give us cases: you never know when some unhinged person will run amok in your disc box with a pump-action X-ray machine and wipe the address marks off.

So, here's a few addresses to chase up. It appears that you can order disc cases in any quantities from Redcar Computing of 8 Dundas St, Redcar, Cleveland (tel. 0642 486643) for 39p each, p&p free.

Kador (0443 740281) also do disc cases and ComSoft (0890 2854) will sell you 10 for £3.50 (p&p free for any orders over £10).

Logo motion

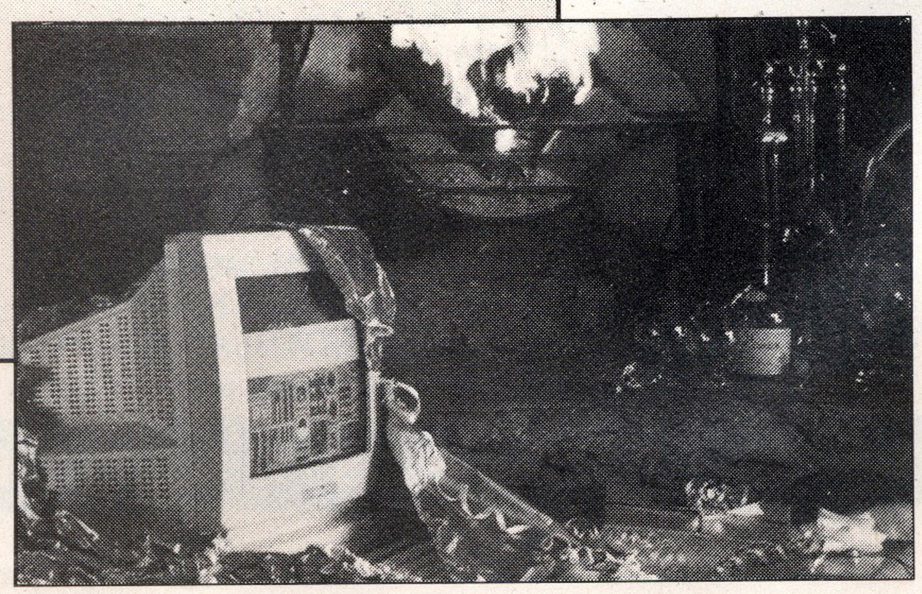
Since we reviewed CP Edwards' Logo Manual last month, this tutorial-cum-manual on disc has been expanded and the phone number has changed. It's now £15 for a two-disc set and the contact number is 0225 837087.



Local hero

A vote of thanks to the Geoffrey Baynes, landlord of the Queen Victoria, Priddy, Somerset (who just happens to be our cover photographer Stuart Baynes' father). He lent us the lounge of his pub for an afternoon while our art team set up and shot last month's cover.

The fact that the session took place in a public house, and the fact that the transparencies taken became progressively blurred as the session went on are, we are sure, quite unrelated.



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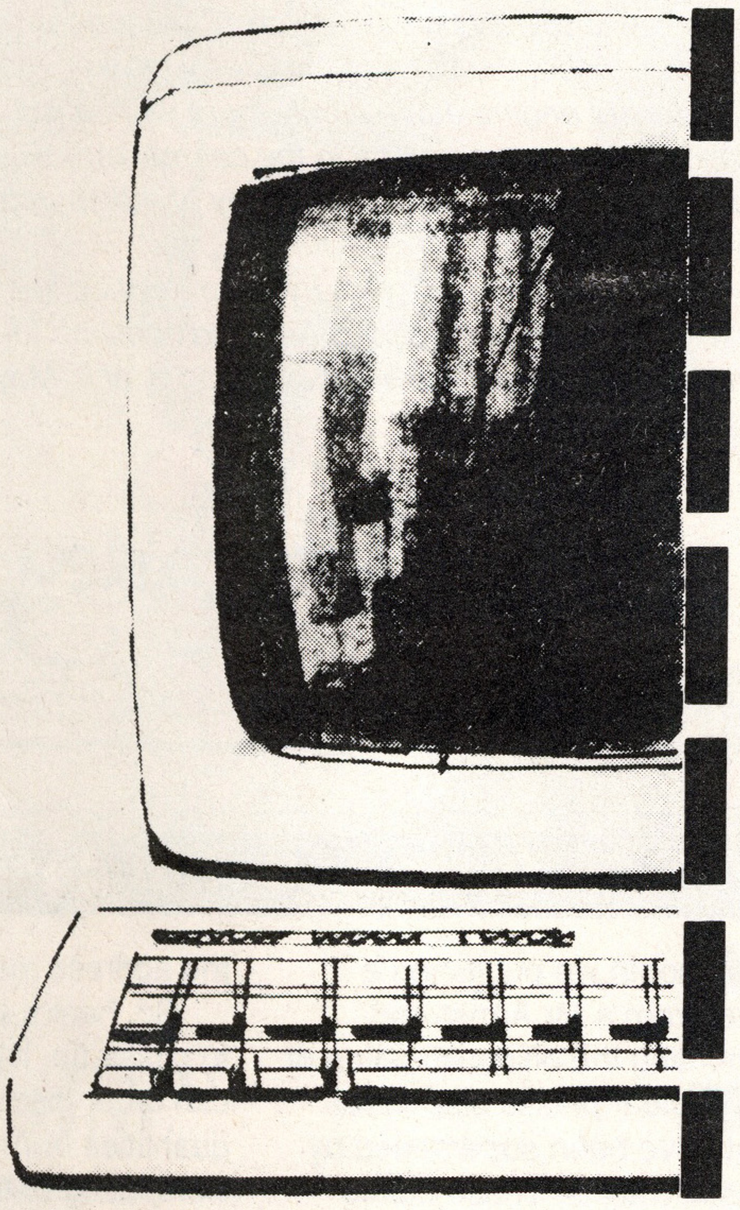

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Yours sincerely,

Alan Sugar

Alan Sugar
Chairman AMSTRAD Plc

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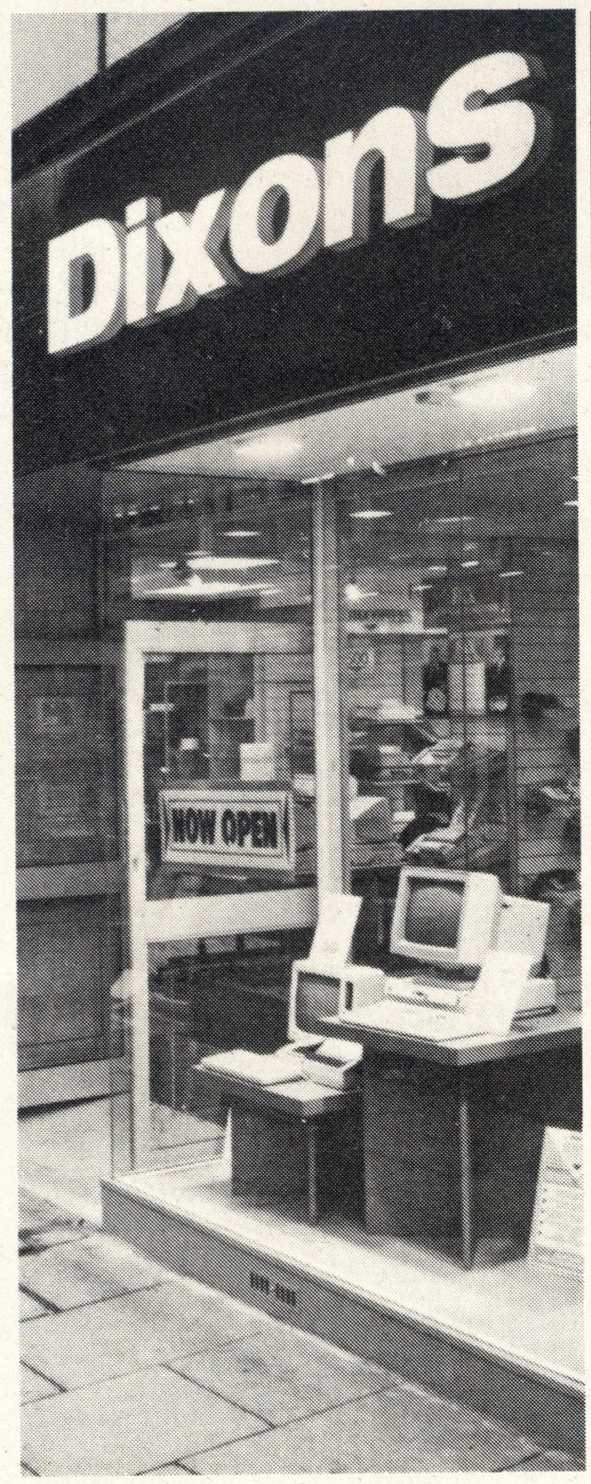


Note the PCW 8256. Proof of their commitment to the top name and the best game in office electronics

The business business

Dixons, so long dismissed by computer retailers as nothing more than box shifters (that means they must be selling a lot more than respectable computer dealers), are throwing down the gauntlet to the competiton. Following successful trials in London and Liverpool they are opening the first in a chain of Dixons Business Centres in Leicester.

Steve Gibbons, the new store manager, said 'Our fully trained staff can offer professional advice on the right equipment to suit each customer's needs and we will be delighted to visit their premises to discuss and assess their requirements and even install equipment on a trial basis to ensure that it is right.'

The Business Centres will offer the full range of office electronic equipment from calculators to computers, phones to fax. Although much of their normal range will be duplicated Dixons plan to compete on service with traditional office equipment retailers. There will be hotline support and a resident engineer for technical backup on a full range of top name branded goods.

Finally they will offer a variety of finance deals aimed at making it easier for the smaller business to move confidently into office automation. ■

News from the gnome service

Fresh from saving most of the unknown world in Gnome Ranger Ingrid Bottomlow has an even more difficult task on her hands; can she defeat the powers of greed?

To find out you'll need to buy Level 9's latest game, Ingrid's Back. This three part adventure features thirty pictures,plus recall and editing of previous commands. Versions of Ingrid's Back for other machines have already received good reviews.

Ingrid's Back is available from Level 9 Computing at £19.95; for more details tel 0344 487597. ■

'Hi doll,' I said. She broke my arm. Straight away I knew there was something different about this gal.

German interfaces: Amstrad relent

Recent buyers of 8256s and 8512s have been dismayed to find that the interface at the back where their mouse or RS 232 should go is the wrong shape. Amstrad have been shipping in German models and these have the standard German expansion port instead of the card-like British connector.

Amstrad now say that an adaptor to convert the connector to the British standard is available 'The adaptors are free of charge from the dealers who supplied you with your PCW so long as the PCW in question is still under warranty and will be available soon' they told us. So it looks like a happy ending after all. ■

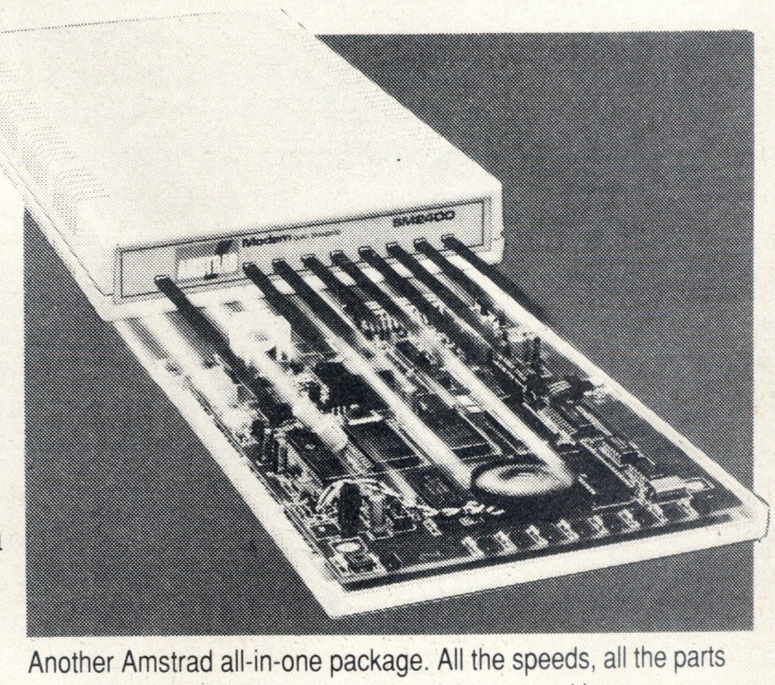
À la modem

Amstrad have previously released an internal modem for their PC range of machines but now comes news of an external modem for everyone else who wants to join the world of data communications.

The Amstrad modem is called the SM2400 in line with their usual policy of names that almost make sense (Sugar's modem 2400 baud?). The modem comes in a sleek flat box in the ubiquitous shade of computer cream (BS 9876/AB-12 perhaps) with a separate power supply and enough lead to leave it on the floor. There is an RS232 ribbon cable supplied and all the usual indicator lights are on the front. It also boasts an internal speaker for call monitoring and a through connector for a phone.

For the technically minded the SM2400 supports V21, V23, V22 and V22bis (which will not be explained here), call progress monitoring, auto answer, pulse or tone dialling, auto baud rate selection and full Hayes compatibility all of which is detailed in the comprehensive manual.

The SM2400 is being sold at £249 + VAT which is probably the lowest price of any external 22bis Hayes compatible modem outside the USA.



Another Amstrad all-in-one package. All the speeds, all the parts and all the features at half the price of the competition

Picture this

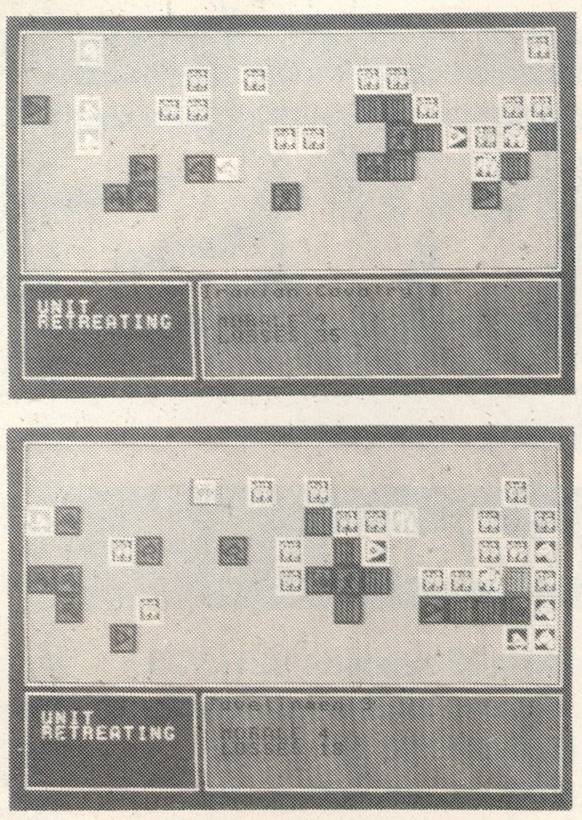
The problem with clip art is that you never seem to have the picture you need on disc. This is especially so for anyone with unusual pictorial requirements and no time or artistic talent.

Tecnation have now added to the growing quantity of clip art libraries with Get Set Typeset for the Stop Press DTP package. Produced in association with the original designer of Stop Press the package consists of three discs containing new fonts, clip art and utilities as well as a comprehensive manual.

The price from Tecnation, 23 The Nursery, High Street, Sutton Courtenay, Abingdon, Oxfordshire OX14 4UA is £24.99 inclusive of postage and VAT. ■

Don't hold the front page

A recent press release concerning Ancient Battles, a graphic strategy program to recreate many of the pitched battles from the world of antiquity, failed to include the PCW in the list of machines for which it is



Coming soon to a screen near you?

being made available. According to CCS this is because they don't have a programmer who can convert it from the CPC or Spectrum to the PCW.

If strategy game conversions are your forte then contact Tricia Peters on 01 985 7232. ■

Marginally better

The seemingly endless frustration of trying to get cut sheet paper properly aligned in the printer, essential for anyone using headed paper, has prompted a variety of solutions, some better than others. Maxafit, launched at the PC show, is the brainchild of Margin Maker who produced the product of the same name for the PCW 8256 printer.

Maxafit is designed to be nearly universal in that it will attach to both wide and narrow printers, dot matrix or daisywheel, Amstrad or not just so long as they have a similar paper path to an electric typewriter (top feed basically).

The product is intended to sell retail eventually but is currently mail order only. It has already been taken up by a mail order catalogue (full page, big secret, until the launch) as well as being available directly from Margin Maker, PO Box 121, Gresham Road, Staines, Middlesex, TW18 2AJ at a price of £25.75 including VAT and postage.

Refresh your ribbons

If you do a lot of printing then the cost of replacing ribbons begins to become an important consideration. There have been many suggestions for increasing the life of ribbons mainly centered on the liberal application of WD-40.

Now comes something a bit more professional looking for your shelf. Caspell Computer Services have produced a product called Refresh which is 'a complex mixture of inks, oils and organo-silicon compounds which actually restores to immediate good health any ailing and faded fabric printer ribbon for only a few pence each'.

Refresh should eventually be in the shops but is currently available mail order from Caspell Computer Services, 43 Emerson Road, Poole, Dorset for £8.95. ■

Code comfort

Spa Associates are publishing a new book on Z80 machine code programming for the PCW machines. It will be imaginatively titled 'Z80 Machine Code' and is available by mail order from SPA at £15 including postage. For more information phone 0937 843855. ■

For starters

When you buy a new printer from a dealer they don't always include the bits and pieces you actually need to make the thing work. Many a buyer has arrived home with a new printer to find they can't actually use it.

To get you going Compumart are offering a free starter pack with every new printer you buy. Choose from among Amstrad, Citizen and Panasonic printers in 80 or 132 column and with speeds up to 288 cps (characters per second) in draft, 96 cps in NLQ.

The starter packs include 1000 sheets of listing paper, an extra printer ribbon and an interface cable. If you can't resist their offer contact Compumart on their order hotline 0509 610444 and they say you can have your printer on the next working day. ■

Ath good ath a mile

Official Secrets is the name of a new club inaugurated under the Magnetic Scrolls umbrella (it's their club). Those who follow in the footsteps of the Pilgrim will want to wander along. On joining you get a mini-adventure (their own description) called Myth, automatic membership of Special Reserve which entitles you to various goodies at discounts, 6 issues of Confidential – the club magazine (the review copy is excellent), a copy of Gnome Ranger or a surprise goody if you already have it, a telephone help desk for those times when you finally admit to being utterly stymied and lastly, a chance to win £500 worth of computer hardware by sending in tips and hints.

All this for only £19.95, what more could you want? Contact John Trevillian on 0279 726541. ■

Myth, real enough but for Official Secrets members only

Teach an old dog new trix

Scarabeus Software have released version 2.0 of Texatrix, the text analysis program. As well as character, word and sentence counts, average word length and average sentence length Texatrix now includes a Fog Index (which gives an indication of the reader age of the text) and a long word count.

For further information on Texatrix contact Scarabeus software on 01 515 4313. ■

Pass the port

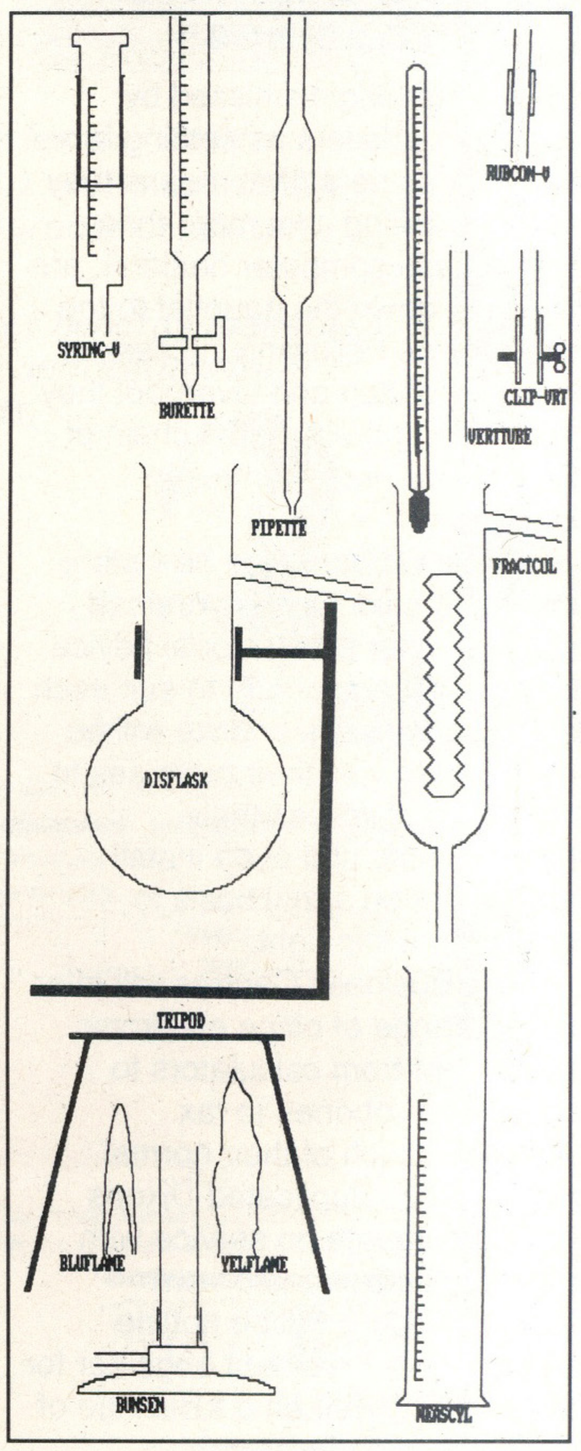
CP Software have updated a number of their products for release. As well as an updated Graphics, the Universe and Everything (reviewed in this issue) Lightning BASIC now includes a command to reconfigure the output ports on a PCW 9512 for those using two printers. Details of CP Software products on 0993 823643

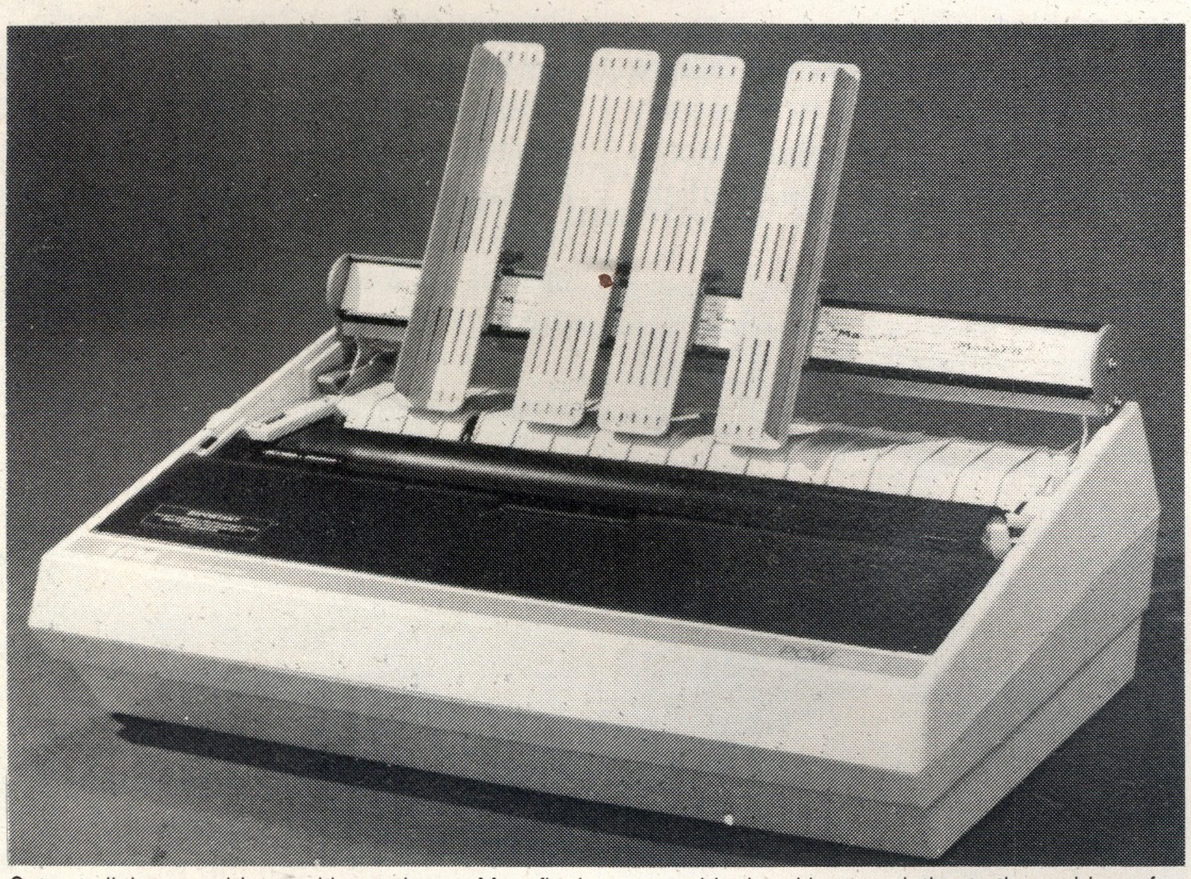
Good retort

Chemists who can't draw are catered for by Slick Fit, a collection of Stop Press clip art to suit secondary school science teachers containing images of most of the apparatus used in the chemical laboratory in a form that be easily fitted together on screen. There are a number of sprites, such as arrows, and a font designed for writing chemical equations.

The price is £12.50 and it is available from G Ponting, Weavers Place, Chandlers Ford, Eastleigh, SO5 1TU. ■

Don't bandy with banda copies again





Cut out all those problems with cut sheets. Maxafit aims to provide the ultimate solution to the problem of using cut sheet paper

cp software

NEW CLOCK CHESS 89

CLOCK CHESS 89 is the **strongest** and **most versatile** chess program yet for your PCW computer. It has the most advanced 3D graphics, the widest range of options, the power to play incredibly fast and the intelligence to selectively search deep into the position. CLOCK CHESS 89 has been tested against a wide range of other chess programs and has shown itself to be stronger than any of them.

Written using the latest techniques CLOCK CHESS 89 does not use the usual "brute force" method of searching for the best move, but instead is packed with chess knowledge which uniquely allows it to search only those moves which are "sensible" or "interesting" and not to waste time analysing lines of play which it regards as "trivial". In addition, it has a variable search depth which results in a deeper search of active lines, thus reaching those parts that other chess programs cannot.

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- annihilates other PCW chess programs
- largest range of options, cursor controlled for easy move input
- special easy mode for beginners
- full display of its thought processes gives you a fascinating insight into its search mechanism
- perfect understanding of all the rules of chess including underpromotion, draw by repetition and the fifty move rule
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- makes full use of the extra memory of the 256K and 512K PCW

"CLOCK CHESS is a lively and interesting opponent. An aggressive program that keeps you on your toes .... it dices up Colossus Chess nicely" Mike Basman, UK Chess Champion.

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- save screens and instant multi-screen recall
- full A4 screen dump to dot matrix printer
- timer, sound routines etc. etc.
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- all functions use simple-to-use BASIC keywords
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"knocks spots off other basics !"

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NEW Z80X68000 SOURCE CODE TRANSLATOR

Z80 to 68000 Source Code X-Translator for ATARI ST on 3.5" disc.

Are you an assembler language programmer ?
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Now instead of re-writing whole programs or program chunks for 68000 computers, you can directly translate from Z80 source code, edit the 68000 source code thus created and/or directly assemble it.

Remember, most programs consist of an outer shell, inner logical code, system dependant code and graphics routines. Z80X68000 will easily convert the outer shell and the inner logical code giving you a bug-free start to get your software up and running.
You can convert from one computer to another as easily as if they both used the same micro-processor.

Z80X68000 produces source code that runs at 2MHz Z80 equivalent on an ST. With a quick manual optimisation of time critical loops you can achieve 12MHz equivalence or better.

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Special Edition

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BRIDGE PLAYER 2000 with TUTOR *"very well thought through, fine display, gets the most out of Bridge on the computer"* - PC PLUS

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FEATURE

ALL SHAP

PCs and 5¼" discs, PPCs and 3½" discs... how can you get the best out of them all? Add a disc drive to your PCW! Steve Patient shows you how

As part of an ongoing project for the Ornithological Society concerning the effects of coastal pollution on waders you find yourself drawn into keeping detailed records of birds found in estuaries all over the country. A worthy project but you realise it's going to prove time consuming; however, having a computer and a database you feel justified in insisting that the mass of information arriving at your home must be on disc. At least now you won't have to waste time typing it all into your PCW.

When the data begins to arrive, you discover too late that you should have specified 3" discs. Not only do you get 5¼" discs but also the 3½" kind. And they come from a variety of machines. You regard the steadily rising tide of incompatible discs with a sense of mounting panic, but don't worry. Help is at hand.

MS-DOS kills bugs... dead

The most common requirement for PCW owners is certainly the transfer of text from the IBM compatible machines to the PCW and vice versa. Until recently this meant 5¼" discs with 40 tracks to each side. The way MS-DOS handles its directory is totally different from CP/M's, so it isn't enough just to fix a 5¼" drive to the PCW. CP/M itself can never read an MS-DOS disc unaided. It will simply give you a message saying `Bad Format - Retry, Ignore or Cancel?` When you cancel it will follow up with an explanation:

```
CP/M error in B: Invalid Format
BDOS Function = 17 File ????????.???
```

Although not everyone would agree that this explains very much.

If you still plan to read MS-DOS discs then the first step has to be attaching the new disc drive. There's no soldering or wiring involved: you just plug it in. If you have an 8256 or a 9512 then everything you need is already present inside the machine. If you have an 8512 then it means giving up your existing second drive. There are several ways to go about tackling the problem including some off-the-shelf answers.

One of the first solutions to come to market was the Intergem Interface marketed by Gemini. This was a combined hardware and software fix. The interface itself consisted of a small printed circuit board mounted on a black plate which screwed into the gap provided for the second disc drive on an 8256 machine. On the front of this plate were two standard sockets for BBC computers – one for the disc drive and one for the power supply to the disc drive (as you might have guessed Gemini were involved in the BBC market already).

Which discs?

Now that you have your 5¼" drive connected and working what do you do? First, buy some 5¼" discs. You should get the kind labelled 96 tpi D/D D/S. This means 96 tracks per inch, double sided, double density. They will be a bit more expensive than those labelled 48 tpi but buy them anyway. Prices vary dramatically from as low as 50p each up to about £2.50p each. Branded discs at around £1 each are a safe buy. Format them with DISCKIT as B: discs and use them as you would a 3" B drive disc – only these are cheaper.

How compatible?

At the moment you're restricted to the type of stuff you can use on both PCW and PC/PPC etc. Really you can only use simple text (ASCII) files on both machines, or data files for the small number of programs available for PCW and PC (Masterfile, SuperCalc 2, WordStar, Protext). Programs themselves certainly won't work.

Rumours are growing that a PC LocoScript is under preparation – but please *don't* ring us or Locomotive asking about it! If and when it should come out, portable LocoScripting – with a PPC, perhaps, and your 3½" drive – would be practical.

...ES AND SIZES

One of the nicer things about the PCW range of machines is the 3" discs; convenient to put in your pocket and nearly indestructible. Unfortunately the rest of the world goes its own strange way. But you can persuade the PCW to speak with other, less favoured, computers – and adding a disc drive can be an easy way to do it.

Disc kit

Once the Intergem had been fitted the second drive, which could be any BBC compatible unit, acted just like the official Amstrad drive. Of course, if it wasn't an 80 track double sided drive then you couldn't format or read it without extra software. Gemini supplied software to read and write most drives and formats but not to format the discs in the first place.

Gemini were really aiming at the educational market, in fact at the large user base enjoyed by the BBC machine. Unfortunately for them the two markets never really overlapped. Their failure to read the market correctly lost them a lot of money but doesn't detract from the usefulness of their kit in transferring data from other machine formats. Of course, it did look a bit odd with the cables hanging out of the front of the PCW but this made it easy to physically change drives.

Pace hots up

The most straightforward way of getting a $5\frac{1}{4}$" drive onto the PCW machines is now the unit supplied by Pace Technology. This can be bought for around £185 including VAT from any large mail order company – comb the ads in 8000 Plus for the best deal. The Pace drive features its own power supply, a connecting ribbon cable and a switch on the back to change it from an 80 track to a forty track drive.

Also included is the software you need to transfer files from a $5\frac{1}{4}$" IBM compatible PC disc. Called TDOS this is an efficient and reliable program.

Fitting the new $5\frac{1}{4}$" drive couldn't be more straightforward. You will need a Phillips screwdriver with a long shank and a table with a blanket across it to protect the screen (you could work on a carpeted floor). No other tools are required.

Turn off the PCW and disconnect from the mains. Unplug the printer ribbon cable, the power supply lead and then the keyboard. Unscrew the RS232 interface if you have one and lay the PCW screen down on the blanket. You will see two recessed screws at the top of the machine and two at the bottom. Undo these and put them in a dish (so you don't lose them).

Two smaller screws are located above and below the expansion port (the strip of board just below the printer port). Remove these and put them with the others. The back half of the casing can now be gently eased off to expose the inside of the PCW. Resist the urge to fiddle and don't touch any part of the tube or anything else you don't need to, including dusting and running it under the tap!

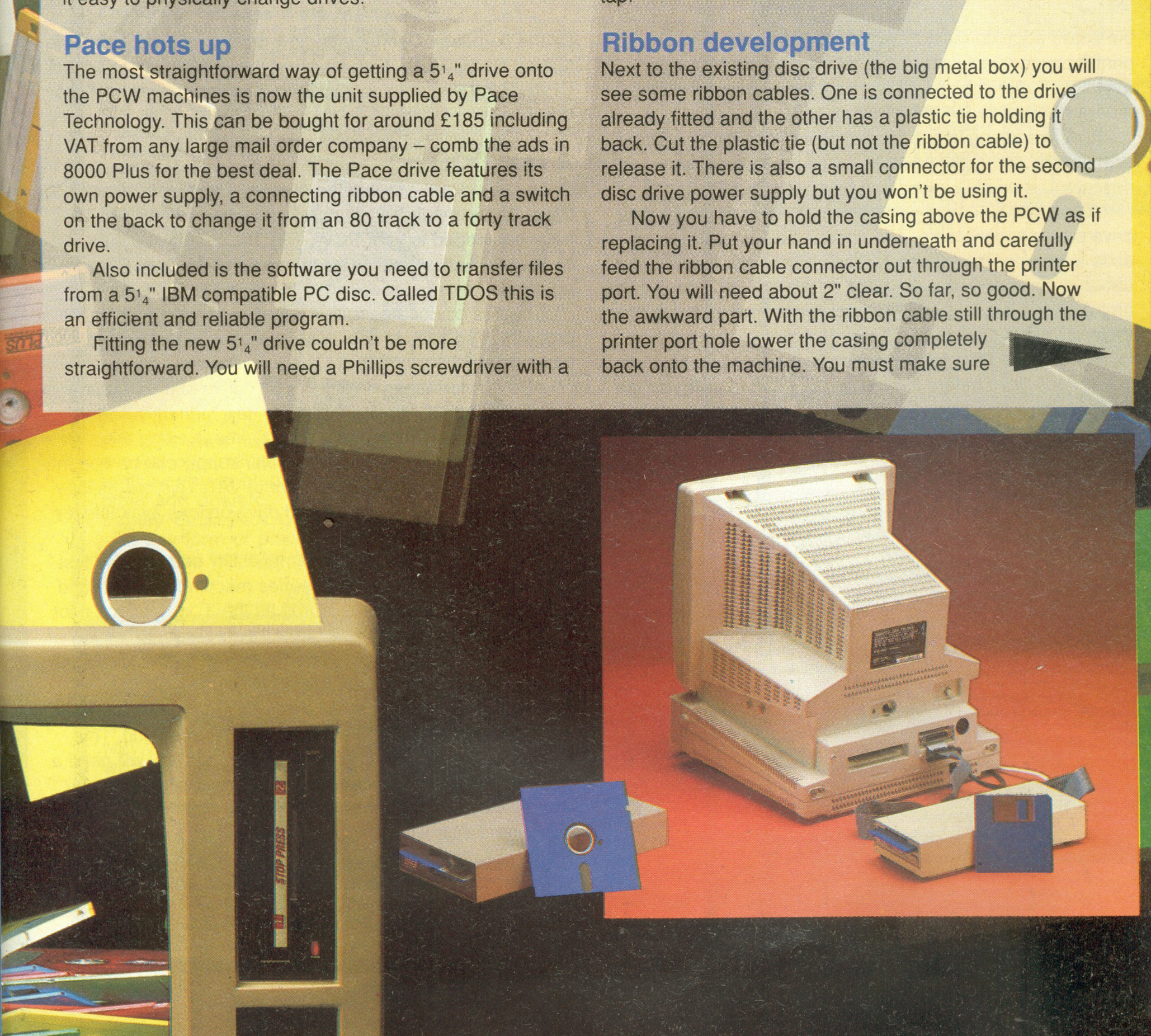
Ribbon development

Next to the existing disc drive (the big metal box) you will see some ribbon cables. One is connected to the drive already fitted and the other has a plastic tie holding it back. Cut the plastic tie (but not the ribbon cable) to release it. There is also a small connector for the second disc drive power supply but you won't be using it.

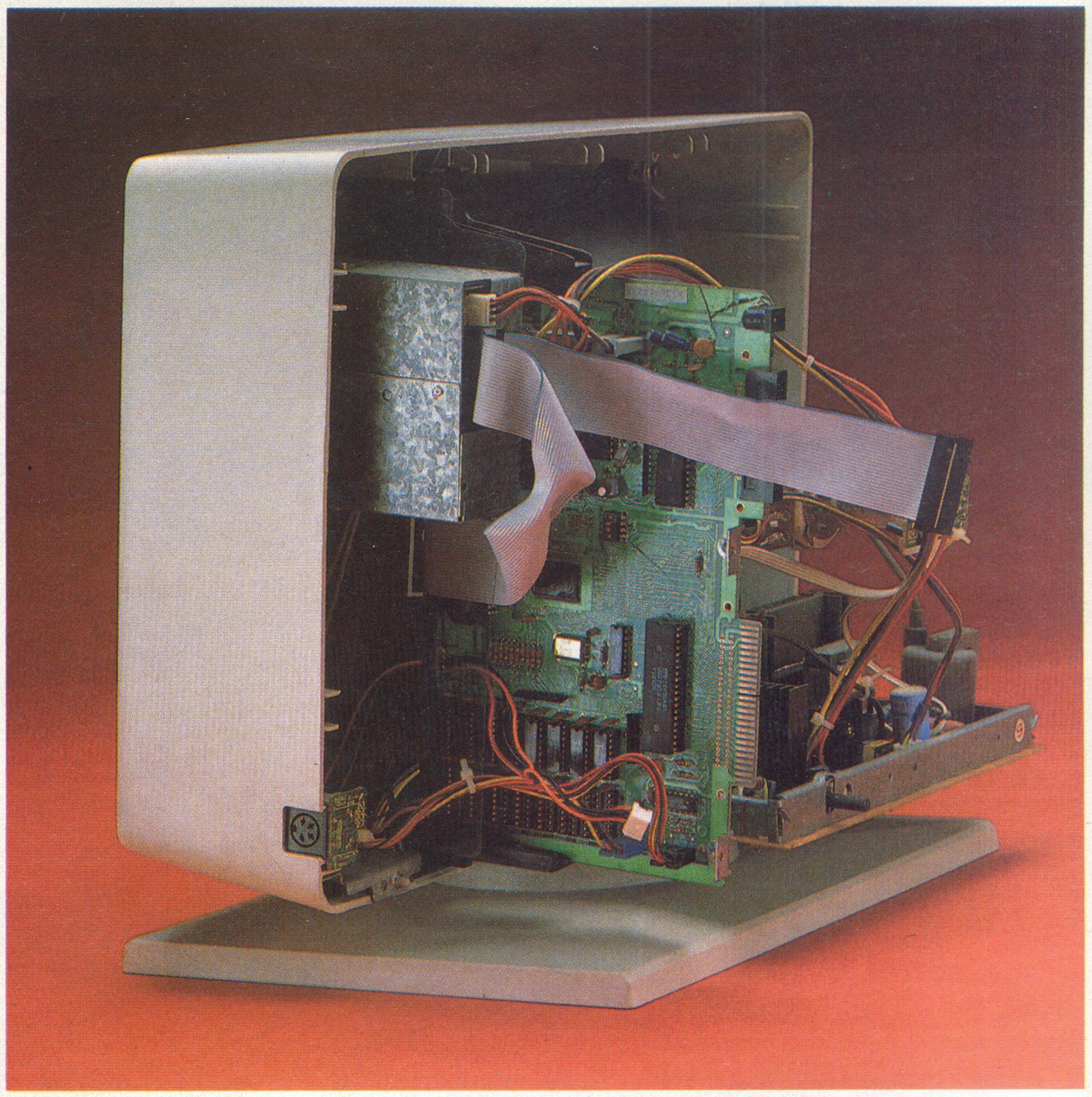
Now you have to hold the casing above the PCW as if replacing it. Put your hand in underneath and carefully feed the ribbon cable connector out through the printer port. You will need about 2" clear. So far, so good. Now the awkward part. With the ribbon cable still through the printer port hole lower the casing completely back onto the machine. You must make sure

Jump to it

Most disc drives have jumpers on which tell the disc drive circuitry which disc drive it is (A: B: C: etc) These are usually arranged in a bank and can be from 3 to 8 in number. Some have soldered links but most have either small dip switches or links like little staples. They will be numbered from 0 or 1. If they are numbered from 0 you need the link across 1 and if numbered from 1 then you need link 2. On the Pace drive you won't have to worry about this.



The Intergem provides BBC compatible connectors enabling a wide range of drives to be fitted with standard BBC cables



When the back is removed from the PCW the spare ribbon connector will be tied up with the power lead. Snip the tie and pull the ribbon cable free

Vanished into thin air

This company wrote the transfer programs for the Intergem and then vanished. 8000 Plus would like to hear from anyone involved in the company regarding the status of their software.

the board edge connector, the printer connector and the printer power supply connector all line up; don't force anything. There is plenty of room for the ribbon cable to emerge alongside the printer connector.

With everything in position simply replace the six screws, sigh deeply, and make yourself a nice cup of tea. You deserve it. Now plug everything back into your PCW.

You will need to fit an ordinary mains plug to the Pace drive power supply cable. The ribbon cable from the Pace drive terminates in a connector that attaches to the PCW ribbon connector. There are slots on the side so it can't go on the wrong way around. Connect the two up and plug the Pace drive into the mains.

For obscure technical reasons you need to put a $5\frac{1}{4}$" disc in the Pace drive before turning on the PCW in order for the PCW to know the second drive is there (but don't use the disc supplied, use either an old or a new one kept specially for the purpose). Connect the new drive and turn it on before turning on the PCW. Now just start the PCW in LocoScript or CP/M and the screen should announce the presence of two drives.

A real DOS

Once started you can use the new $5\frac{1}{4}$" drive as if it were a 3" drive, and perfectly satisfactory it is to. But a new flexibility has been added to your PCW. The TDOS software supplied by Pace will allow your PCW to use the discs from PC type machines.

There is no documentation supplied simply because the program is so easy to use. Just type `TDOS` at the A> and up it comes. All the prompts are there on screen.

All this information on fitting a $5\frac{1}{4}$" drive applies equally well to fitting a $3\frac{1}{2}$" drive. This is the new standard in the MS-DOS world (although Apricot have been using them for years). A $3\frac{1}{2}$" drive with its own power supply can be bought from Cumana for £106.89 inclusive of VAT. This makes it by far the cheapest of all the second drive options available for the PCW.

There isn't a great deal of compatibility between the first and second drive on the 8000 series machines anyway and with the $3\frac{1}{2}$" discs being as sturdy as the 3" variety and a lot cheaper it can make sense to use one as a second drive even if you don't need to transfer files from other computers.

This brings up the first nail clipping in the pizza, the ribbon cable. If you choose to buy a drive from someone other than Pace then you will need a cable made up. This isn't a particularly technical operation though you will need a small vice to clamp the cable connectors together with. Alternatively, any reasonably competent electronics or computer dealer will be able to make you up a cable. It should cost somewhere between £10 and £15 depending on how keen they are to do it. The box should give them all the information they need.

9512 owners read this

A non standard second drive on the PCW 9512 works exactly the same as on an 8256. Getting at the cable is different though. Turn off the machine and remove keyboard and printer as above. Take out the top and bottom pairs of screws and the two hidden under round covers at the side. Keep them safe. Now slide the cover backward and lift off. You will see the spare cables underneath the lower of the two boards. You can cut the tie and pull out the cable without dismantling the machine but it is a tight squeeze.

Take the ribbon cable to the back of the machine and tape it loosely to the spare printer port. Now replace the cover and ease the connector through the printer port hole in the cover. There is about an inch of spare cable. Slide the cover all the way home and re-assemble. From this point everything that applies to the 8256 applies equally to the 9512.

For complete details of the insides of the 9512 see the May 88 issue of 8000 Plus (Issue 20) on how to fit a standard 3" second drive to the 9512.

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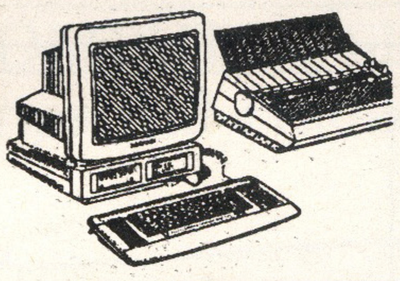

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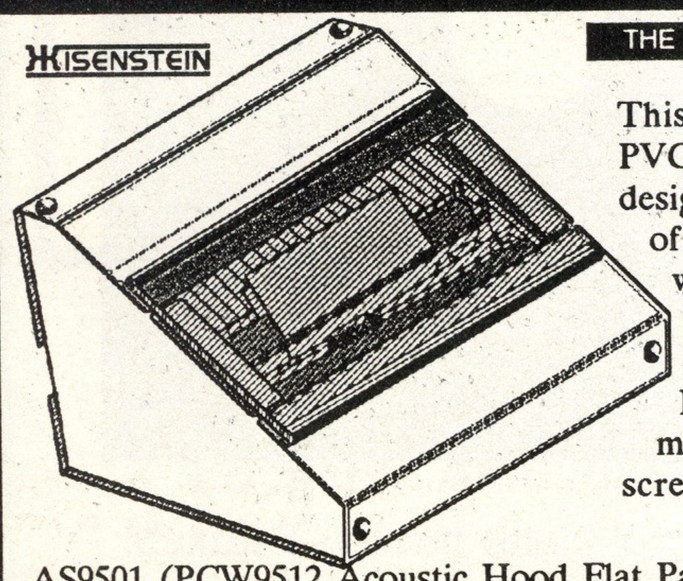

THE PCW 9512 ACOUSTIC HOOD

This Professionally moulded PVC padded Acoustic hood is designed to reduce the noise of your PCW9512 Printer, As well as match your PCW. It comes in two formats, Flat Pack "See 8000 PLUS December 1987" and Ready made for those without a screwdriver!.

AS9501 (PCW9512 Acoustic Hood Flat Pack).....£32.95 + vat
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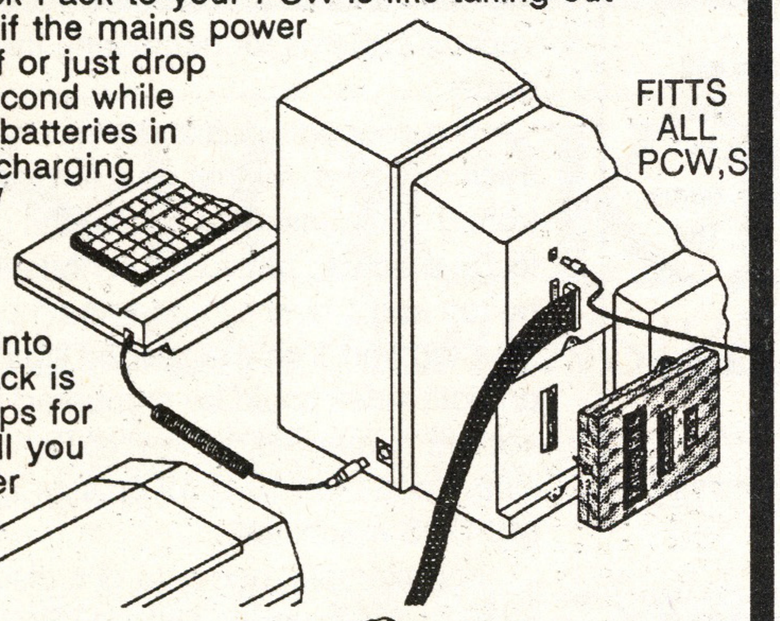
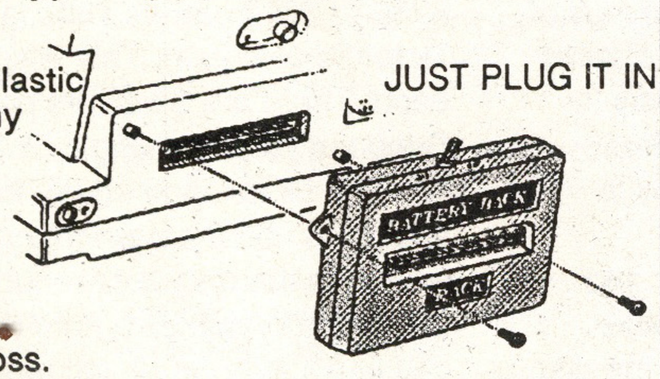


The Battery Back Packs plastic moulded case fits into any PCW via the expansion slot. The pack has a second expansion slot to allow you to plug in other add ons etc.. The Battery Back Pack deals with any form of power loss. Saving you hours of re-typing!



IS8901..... Battery Back Pack ONLY £39.95 + vat.

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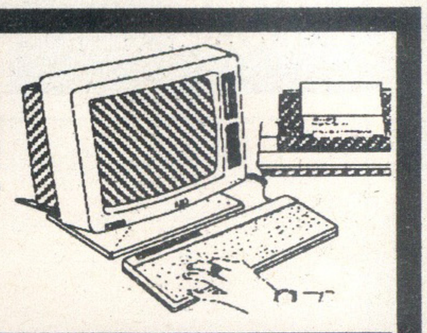

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PCW REPAIR	Min Charge	Max Charge
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Faulty PCW9512 Keyboard	£15.00	£95.00
Faulty PCW8256/512 Printer	£18.00	£70.00
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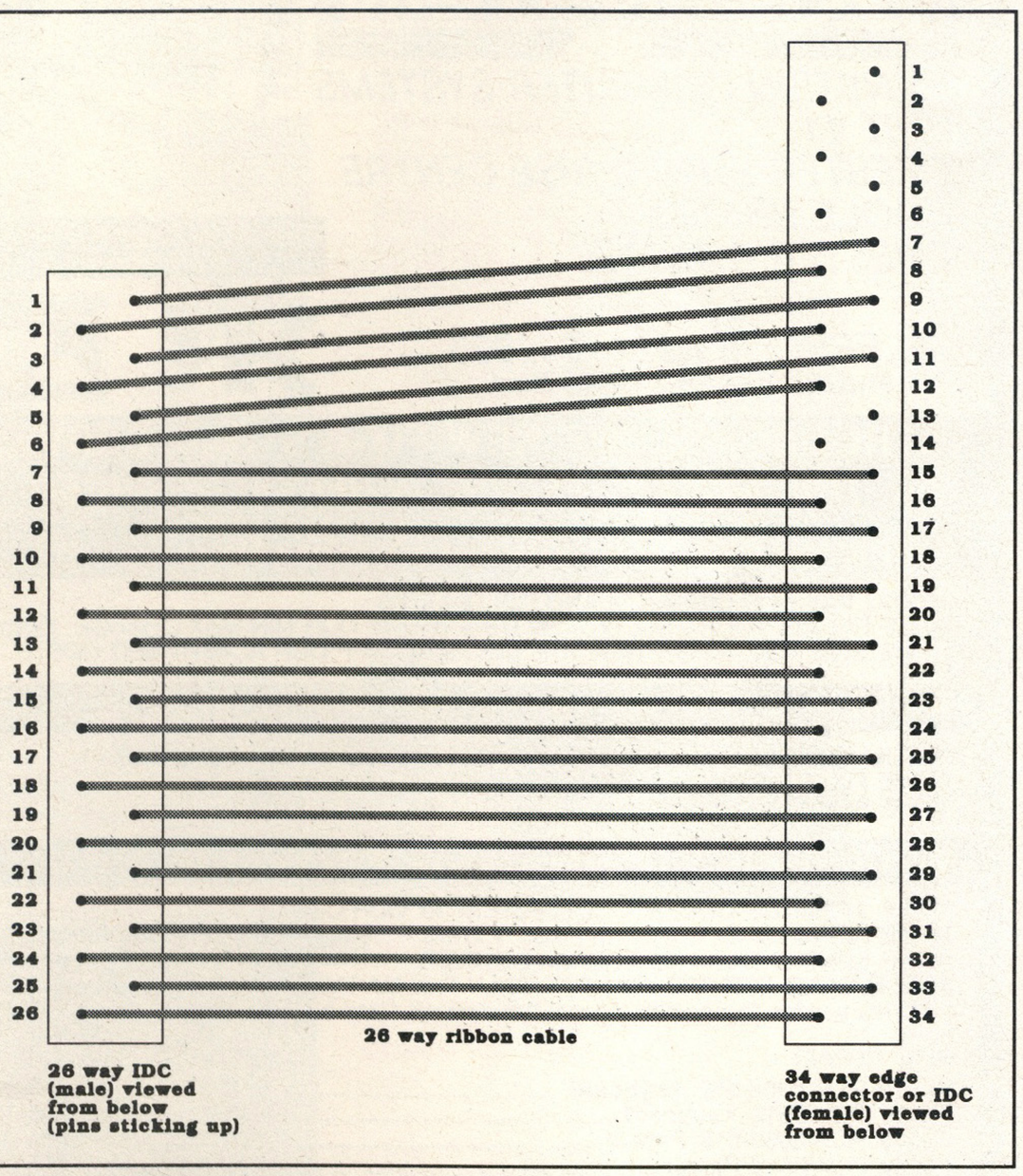
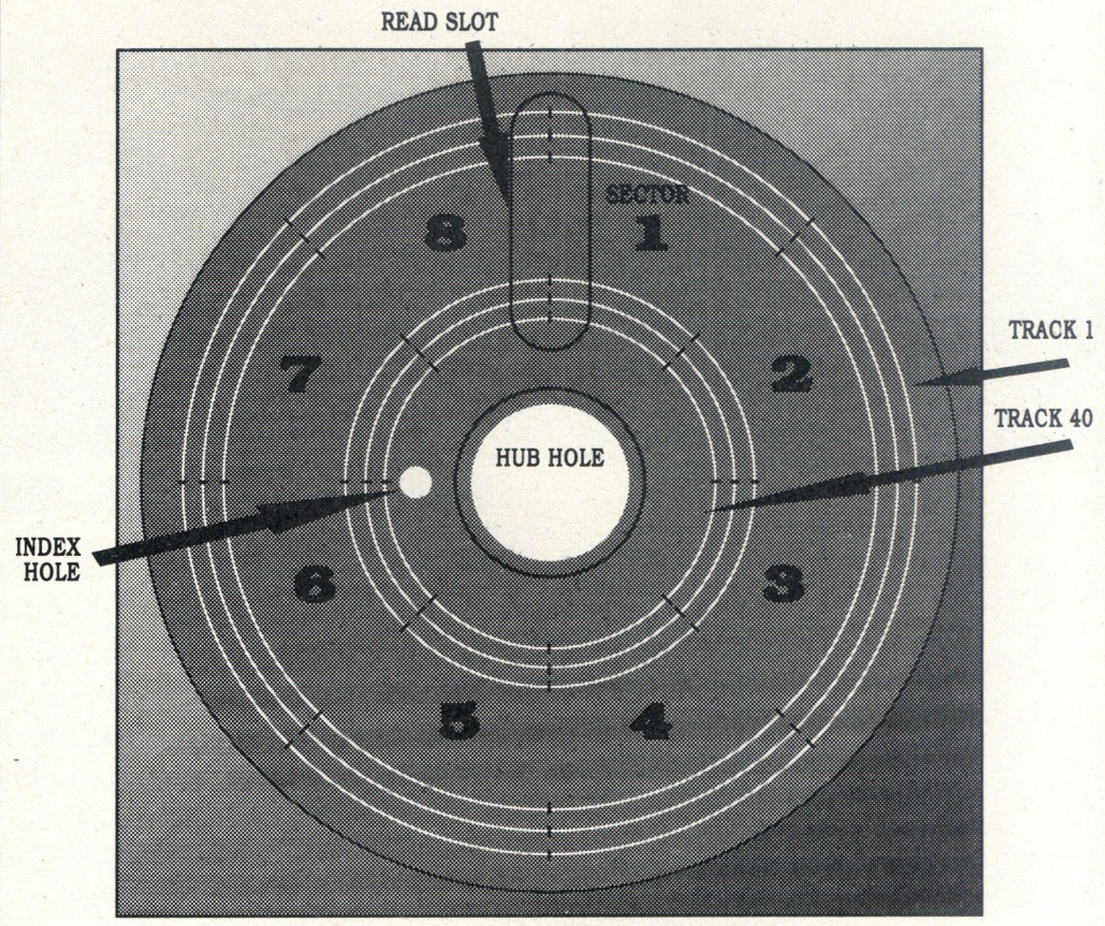


Wiring details of disc cable connector. Although the pins are in fact parallel rows they have been shown offset for clarity



Typical layout of tracks and sectors — If only they were all like that

Adventure games

The software situation is a shade on the murky side. As discussed Pace include a utility to read 5¼ 40 track double sided discs using the PCW, which is fairly close to being a standard, however they don't include anything to write to them or to read the new 3½" discs on which the MS-DOS industry is now standardising.

Advantage (0242 224340) sell a utility called HIHO for £19.95 which they claim will read and write to both 5 ¼" and 3½" PC discs from the PCW. There are various utilities in the public domain to read foreign discs, some of which work and some of which don't. The best of the software is undoubtedly that which was written for the Intergem, but unfortunately the status of those programs is now uncertain.

Gemini grounded

Gemini Marketing collapsed, unfortunately, and a company called Digita took over their software. Digita didn't feel they could handle the hardware side of the business and so the Intergem died. However, Digita may be able to organise an Intergem for you for about £50 and will pass on enquiries. Contact them on 03954 5059 if you're interested.

Suspect description

Once you understand something of the inner workings of discs it becomes obvious why there should be problems reading discs between different machines. The way in which the data is arranged on the disc is called the **format**. These are simple in principle but complex in implementation. We'll stick to our principles.

All disc systems work by first dividing the disc into concentric and ever diminishing circles called **tracks**. These tracks are then further subdivided around the disc into small segments called **sectors**. That is the first and last thing manufacturers agree on.

The disc can have various numbers of tracks although there are only two common choices. Most discs will be either 40 tracks per side or 80 tracks per side. A few rogue formats can still be found with 35 tracks though these are increasingly rare. The disc can have tracks on both sides or only one side, known sensibly enough as double sided and single sided respectively.

All the tracks have to be numbered so that the computer can find them. The track numbers on single sided discs can start at 0 or 1 and go from the middle to the outside or from the outside to the middle. There are various systems for numbering the tracks on double sided discs.

The second side can be a continuation of the first side track numbers, so that on a forty track disc numbered from 0 – 39 outside to middle the other side would be 40 to 79 middle to outside. Alternatively the tracks could be 0 on top and 1 directly underneath on the second side, then 2 on top and 3 on the second side. Once again, the tracks on both sides could be numbered the same and only the sectors numbered differently. For example from 1 to 9 on side 1 and from 10 to 18 on side 2 (as on the 40 track IBM MS-DOS machines).

For example: one side of a disc in the A drive of an 8256 or 8512 carries 180k (173k after CP/M has nabbed 7k for its own use). This is split up into 40 tracks of 4½k each. There are 9 sectors per track, each storing ½k. Suppose you're saving a 5k file to a disc with 5k of space left; that 5k is made up ten free sectors which could be scattered about anywhere on the disc. The 5k file is written to the disc in ½k chunks into the free sectors, and the directory makes a note of where each bit is so that it can find it later on. (It follows that this takes more time than if the disc were empty – the drive head has to move around all over the disc to the free spaces. On an empty disc it could write to the next ten consecutive sectors). ■

● *Thanks to Pace Technology for the loan of a 5 ¼" drive and to Cumana for the loan of a 3½" drive. Their telephone numbers are: Pace Technology (0274) 488211; Cumana (0485) 503121.*

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CHIBASE 3.0

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Chibase 3.0 is the latest, updated version of the database with a difference. Conventional databases are great for constant format data such as names and addresses but useless for variable format data such as chunks of text. Chibase is a 'free text' database aimed at writers, researchers – anyone who needs to keep textual information on disc and draw from it.

The 'free format' plus indexing facility is the same as before; now, however, an import/export ASCII option has been included as well as a Chain Delete facility. You're offered the choice of either browsing through an ASCII file of text that has been prepared in a word processor and importing selected parts of that into the database, reading an entire ASCII file and importing it all into the database, or alternatively, writing text to an ASCII file within the database to be then exported into a LocoScript document.

The Chain Delete option lets you work your way methodically through a database, record by record, deleting the ones you don't want any more whilst keeping the ones that you do.

Chibase basically consists of a database of records each of which contains a number of keys (or highlighted words) to make an index with. Say you wanted to create a database of recipes; each record would consist of a recipe. In each recipe, you might choose to highlight certain of the ingredients for inclusion in the index.

Then, by listing the index, you'd be presented with an index of all the ingredients highlighted throughout the database preceded by the number of records in which they appear. Shark fins, for example, might appear in only two of the recipes whereas butter might appear in thirty of them.

Back at the Main Menu, you 'recall'; by typing in an enquiry (say, CUSTARD) all the records containing that particular highlighted ingredient will be listed.

The great thing about Chibase is that it is a 'free format' database; you decide your own record format simply by typing text into a box on screen using the usual keys for editing.

The program also incorporates a useful Form format which acts like a record template. Basic information prompts can be displayed on the screen like a form which you can fill in: you might want Title, Ingredients, Directions and Cooking Time ready and waiting in each record in which to insert the variable data.

You have to leave Chibase through the [L] option at the Main Menu. You can't just reset your machine because you will lose all the data files that the program needs to locate its various records. In an emergency the program has incorporated a Rebuild utility which can automatically regenerate the indexes.

Chibase is expensive and it does have its inflexibilities: you're forced to work with large files, you can't run it from the memory and it's only ever going to be of real use to you as a reference package. You also have to make all your own adjustments to the PROFILE.SUB file. On the other hand, its ability to amend, sort and recall records make it a well-rounded and useful tool if you're stuck with a large amount of data where the subject matter is highly variable. ■

RANGE OF FEATURES	**4/5**	**EASE OF USE**	**4/5**
PERFORMANCE	**5/5**	**DOCUMENTATION**	**3/5**
***8000 PLUS* VALUE VERDICT**	**3/5**		

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Let's just call it AYE. This is the latest version of the package originally designed for the experienced programmer who needs a fast, smoothly-flowing and professional-looking graphics output. The main addition is a set of printer control routines which were missed in earlier versions.

The program is a library of machine code routines which you can use in any language from Mallard Basic to machine code. These routines allow you to produce graphics and graphical effects of the same standard that you can usually only find on professional software. Also included on the disc are a number of demo programs which take you through different ways of using the various routines.

The routines are very wide ranging and certainly represent good value for money: you can, for instance, have control of the disc drive motors, experiment with sound routines, draw and erase lines, plot and erase single points (pixels), fill shapes, alter the character set, send user defined graphics (shapes you make up for yourself) and double height (and width) characters to the printer and so on. There is also ample provision for creating sprites; sprites are those little creatures the size of a few characters of text which you can move around the screen at incredible speeds.

However, most of the new routines are concerned with printer control – setting margins, bold and italic print and so on. These routines were not in the old version and are rather awkward to set otherwise.

The manual is comprehensive: although the package is generally only recommended for relatively experienced programmers, there are some simple, step-by-step instructions for the intrepid novice explorer to follow. There are also some nice touches of humour which bring light relief to otherwise potentially lethal documentation.
For the hardened programmer, the full Z80 source code of the routines is also provided. It was prepared with HiSoft's Devpac 80, so some modifications may be necessary to make it compatible with other assemblers.

Graphics, The Universe and Everything is impressive. It's got loads of utilities and is quite fast. It will tend to be a bit cumbersome from BASIC, but makes up for that by being accessible from other assembler programs. ■

RANGE OF FEATURES	**4/5**	**EASE OF USE**	**3/5**
PERFORMANCE	**5/5**	**DOCUMENTATION**	**4/5**
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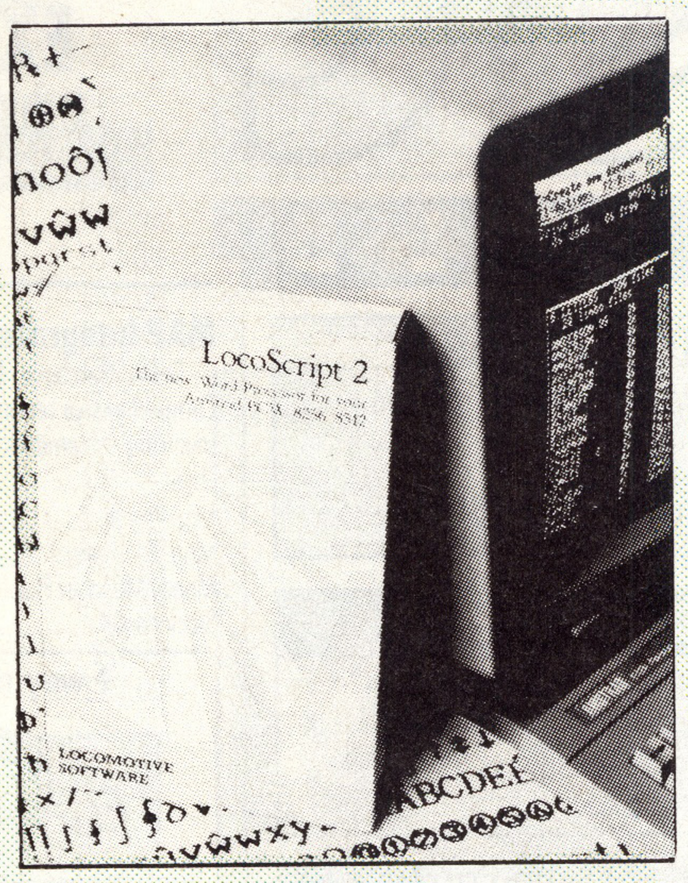

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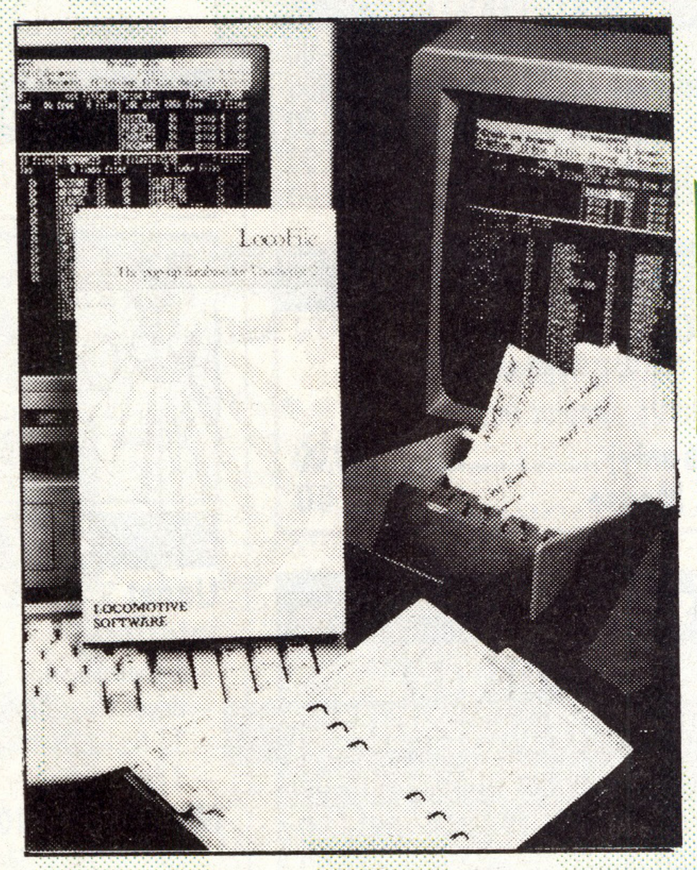

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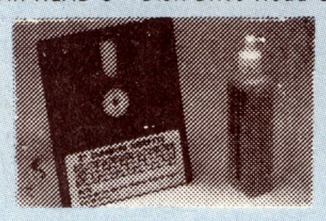

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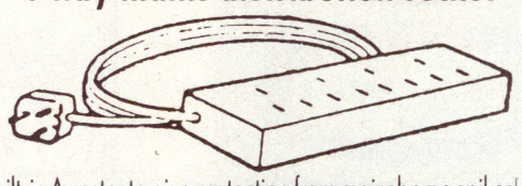

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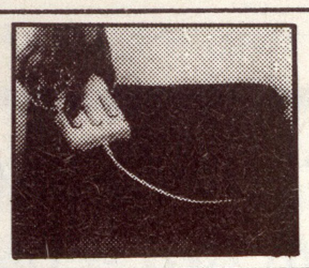

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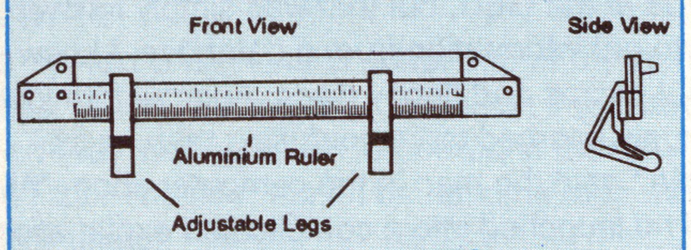

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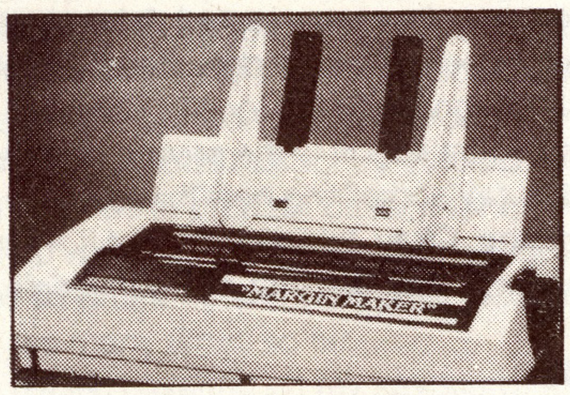

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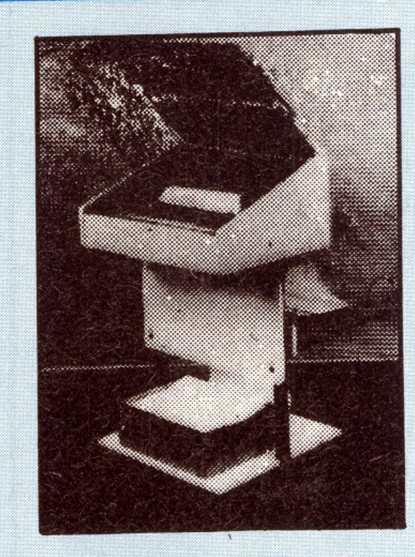

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For most of us, PCWs are a useful addition to the study or the office. For Peter Bayliss, it's rather more than that...

It was a novel experience for me to be ascending a flight of stairs. Anyway, that was what the computer told me I was doing. Gone were the problems of access which disabled people like myself have to face. Of course, all role-players in text adventure games are given able-bodied status. There are no wheelchairs in fantasy scenarios.

The text adventures are a relatively recent (though very enjoyable) distraction. All the same, I bought my Amstrad 8256 in the autumn of '85 primarily for word processing.

As an undergraduate with the Open University and a published writer, I could see enormous benefits in efficiency and time-saving. But they weren't just the usual ones. For me, personally, word processing meant a great deal more.

I suffer from a disease of the nervous system called Friedreich's Ataxia, and the past 17 years of my life have been spent in a wheelchair. For most of that time I worked as a clerk for the GEC in Coventry. But increasing problems with handwriting meant early retirement. And so, with this prospect in mind, I had to consider how to fill my days.

The deterioration in handwriting meant, as it does for others with FA, an increasing reliance on a typewriter. However, I was perhaps luckier than some – an early interest in creative writing meant I'd been periodically using a typewriter for years before FA was diagnosed. So I was already familiar with the keyboard, even if my reactions were a bit slow and uncertain.

Writing was an interest that I wanted to pursue, but it was such an insular and self-reliant business. And with rejections outnumbering acceptances, success seemed very elusive. What I needed was some discipline from outside. It was a definite goal that I wanted, something that could be realistically aimed for and achieved, something to give my life meaning.

As one door closes...

I knew of others with the same disability who were studying for a degree with the Open University. And the more I thought about it, the more it seemed that the sense of discipline and purpose in OU study provided an answer.

All written work, could be typed. This included the exam, which could be taken at home in the presence of an outside invigilator and with extra time if needed.

I enjoyed the work, but my academic essays used to take such a long time. I would type them out once, do all the corrections and re-arranging by hand, then type a second copy. All my writing, both creative and academic, used to be done in this same way. And, of course, this was where the PCW proved to be such a godsend. In fact, without it I would probably have given up years ago – drowned in a sea of Liquid Paper and tears of frustration.

When I first got my Amstrad in '85, computing and word processing were completely new to me. I had done some work on VDUs at the GEC, but that was simply following instructions to get information from a database. I knew nothing about micros and floppy discs. And the formidable-looking manuals seemed more confusing than helpful.

"It's simple," said the man in the computer shop. "All you do is..." And he launched into a complicated explanation which I felt would have left an Einstein groping blindly.

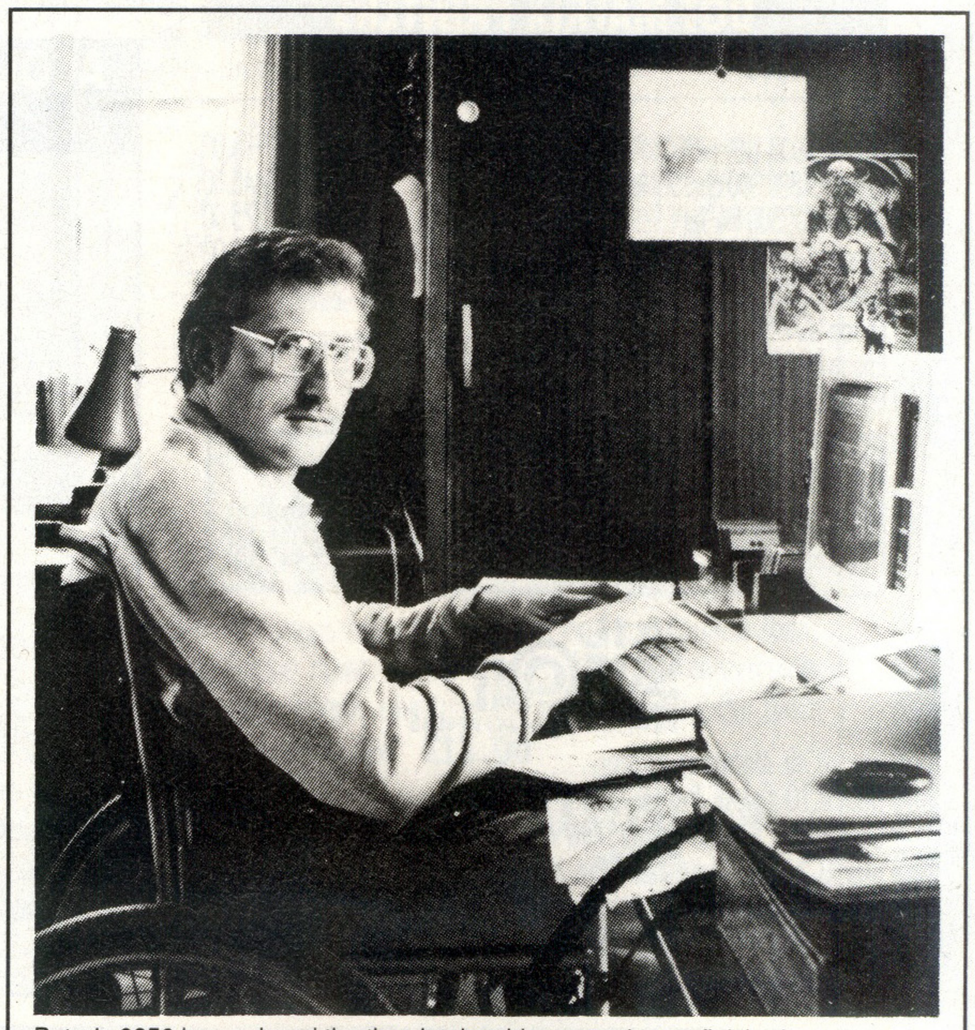
Now being in a wheelchair often makes people treat me as being a bit dim. So I try to cultivate an intellectual aura to dispel any misunderstanding. And as an Open University student, I feel that I don't need to try too hard these days.

However, the computer man seemed determined to baffle me with his 'superior' knowledge. And he might have been speaking a foreign language for all I knew

It has been said that jargon is the private language of those who need to say something new that can't be said in the existing language. Okay, fair enough. But if we buy a micro we are plunged head-first into a jargon jungle.

Wade down

Anyway, after several weeks (or was it months?) of wading through the manuals, I was finally in a position to write and save my first document. And I treated every successful



Peter's 8256 has reduced the time it takes him to produce a finished manuscript by about half. He uses it to type all his essays as well as his exams. The O.U. is an ideal learning medium for disabled students, like Peter, who can work their way through the course by correspondence.

Open sesame

The Open University is open to all students who wish to study for a degree, regardless of prior qualifications (or lack of them). Details on courses and enrolment can be obtained from The Central Enquiries Service, Walton Hall, Box 71, The Open University, Milton Keynes MK7 6AG, tel. 0908 653231. BBC2 carries a lot of O.U. broadcasts and often gives further details too, of course.

advance in my knowledge of the PCW like a conquest of Everest. 'Eureka!' gradually replaced the curses which were more frequent at the beginning.

All this took place over the winter, after the finish of the OU year (which runs from February till October). It must be said that Amstrad manuals and Open University work definitely don't mix!

My creative writing is done mostly over the winter between OU courses. Although I've lost count of the number of rejection slips, I do occasionally manage to get work published. And I'm very proud of those successes.

I've just finished writing a user guide for a company called Synaptics Ltd., who make electronic environmental controls for disabled people. Having wrestled with the Amstrad manual, I have great sympathy for anyone trying to interpret user instructions.

I write a regular column called 'Pete's Patch' in FAX, the quarterly Newsletter of the Friedreich's Ataxia Group. This is something that can't get put off till the winter, so it's another instance of where the PCW has enabled me to cope.

Play time

One of my next projects is to adapt one of my stories into a radio play. So for that reason I was most interested in the article on Play Writing which appeared in the May '88 issue of 8000 Plus. The information on hanging tabs was especially useful.

I bought LocoScript 2 in the autumn of '87. Among its many advances over LocoScript 1, there was one seemingly minor detail that I particularly approved of. The key in the middle of the cursor keys – no.2 with the portcullis symbol – no longer bleeped when it was accidentally pressed.

For someone like myself, with a disability of the nervous system, unexpected bleeps are not recommended – that is, unless one wishes to make a close inspection of the ceiling!

Even with the latest LocoScript, unexpected bleeps are something one has to prepare oneself for on occasion. Until they come up with a totally bleeperless version, my only advice is to be prepared and hold onto your hat. I've not hit the ceiling too many times so far.

I use a plastic covering on my keyboard. It protects against dust, tea or coffee spills, and prevents deterioration of the lettering. It can be taken off to be cleaned.

The keys are not quite so sensitive when you're typing through it. But this can be an advantage when one's reactions are a bit unreliable and adjoining keys can sometimes be accidentally touched. So it can be a partial safeguard against unexpected bleeps.

I had my 8256 upgraded to 8512 at the beginning of '88. This allowed me access to the large 160k dictionary with LocoSpell, a great help. And apart from its function as a spelling checker, I was pleased to discover that it counted the number of words.

I carefully followed the original instructions, putting onto my LocoScript disc the program which automatically copied into M the dictionary in B. However, I soon found that the drive was rejecting my A-formatted disc. So I have now put it onto a disc that is formatted in B, and I've had no problems since.

Like Steven Matthews in his amusing article, 'Casting Spells' (November '88 issue of 8000 Plus), I've become fascinated with the way LocoSpell translates proper names.

Steven had wondered where some of the words (the name-substitutes) came from. Well, I think it has access to the same dictionary as my Computer Scrabble – with obscure words that never graced the pages of more regular dictionaries!

Not in the script

One of the few regrets I had about changing over from my typewriter to the PCW was that I previously had a daisywheel with a nice informal script for personal letters.

In fact, my original idea had been to use the typewriter as a printer. But what changed my mind was the cost of an interface (£100-£200) compared to buying the printer as part of an integral package along with the monitor and keyboard. As it happens, I'm pleased with this setup. The dot matrix printer is so much more versatile.

Anyway, my latest acquisition is Locomotive's Locofont which enables me to write in Penman script. So my personal letters do now have a friendly and informal look. In fact, those who don't know me might wonder how I'd written in 'longhand'. A very pleasing effect, but before I could use the fonts, I had to exchange my LocoScript 2.06 for a new version (Locofont only works with 2.13 or later.)

The script seems intended for sheets of individual A5. But I discovered that if I have it on double proportionally spaced and with a scale pitch of 12, it suits my continuous stationery very well.

At the time of writing this article, I am waiting for the results of my OU exam. If I pass, then I shall have qualified for a BA degree.

When that happens, I shall feel that I've metaphorically ascended that flight of stairs. I will be proudly standing on the top step, scanning the horizon for new challenges. But I will not forget the debt of gratitude that I owe to the Amstrad PCW. ■

Thesis your life

All my manuscripts are now typed just once, all corrections being done on the screen. It reduces the time taken by about half.

The same information, for identification purposes, has to appear at the top of each sheet of my OU essay. Whereas I used to carefully type this on every time, I now simply insert it in the header of my 'document setup'. And page numbers are easily set up in the footer.

However, they were not so easily set up with my first LocoScript (1.0) which had its fair share of bugs. I nearly got my knickers in a twist trying to put a page number code in the 'document setup' before realising that I was attempting the impossible. So I wrote to Amsoft (in their pre-Locomotive days) who sent me an upgraded copy of the software. Page numbers in abundance thereafter!

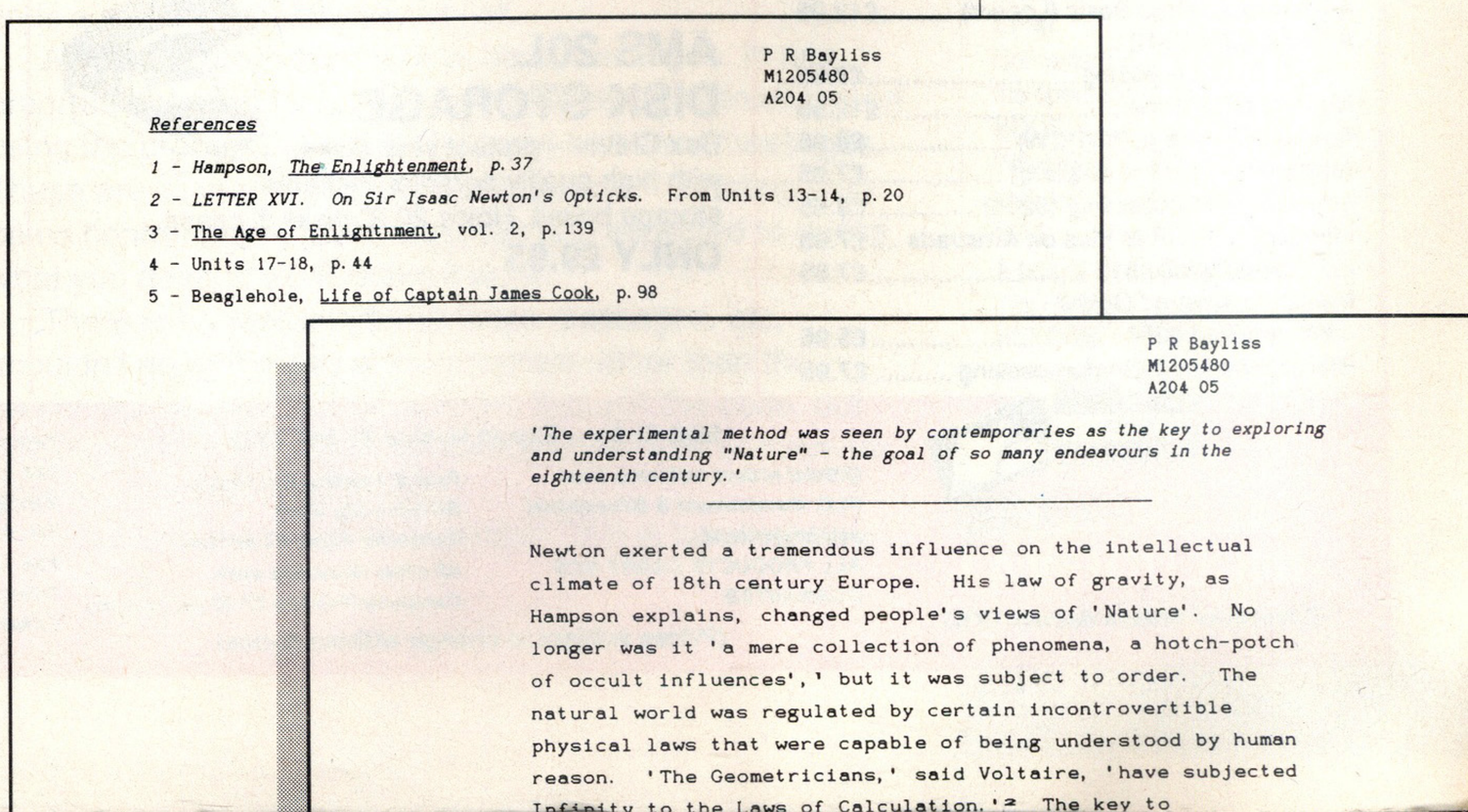
Numerical references in the text of an essay, I later discovered, could be handled easily. One first types the references in full in the essay, then copies them into a block and substitutes superscript figures (by typing [+]SR and [-]SR before and after).

You can then bring the references out on a separate sheet at the end. The number for each reference is best remembered if you save the first on block 1, the second on block 2, etc.

My template for OU essays contains three layouts. The first is for the question, the second for the main body of text, and the third (with indented margins) for any lengthy quotations.

PhDCW

The PCW is of course an ideal machine for writing a thesis on. It works out cheaper than getting your manuscripts typed up, you can make amendments easily, bibliography compilation can be automated and parts of your text can be cut out at a stroke to make up papers. (If you have a Z88 too you can make notes silently in a library and cable them directly across into the PCW to polish up!) Plus LocoScript 2 has every foreign accent, foreign script and scientific symbol you need even for post doc work. 8000 Plus will be carrying a feature on thesis writing with a PCW in a couple of months.



P R Bayliss
M1205480
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References

1 - *Hampson, The Enlightenment, p. 37*
2 - *LETTER XVI. On Sir Isaac Newton's Opticks.* From Units 13-14, p. 20
3 - The Age of Enlightnment, vol. 2, p. 139
4 - Units 17-18, p. 44
5 - Beaglehole, Life of Captain James Cook, p. 98

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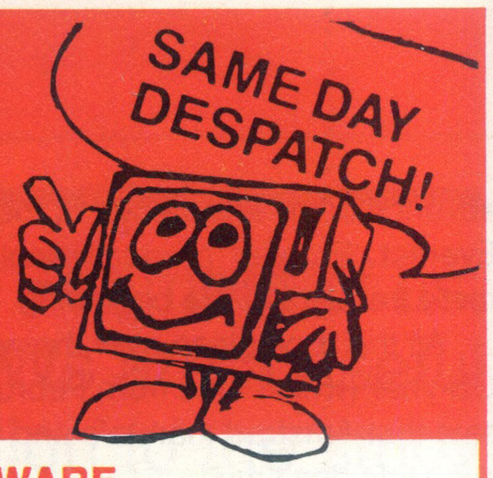

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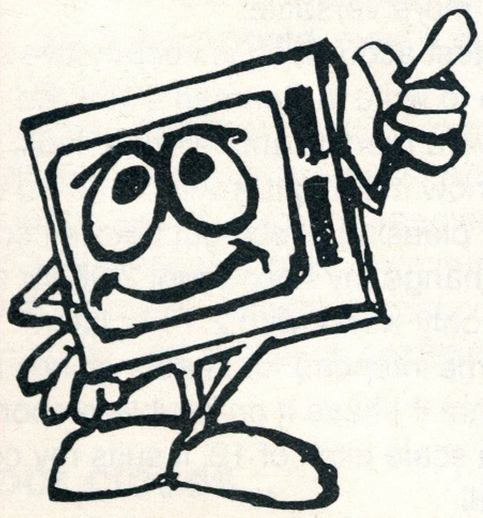

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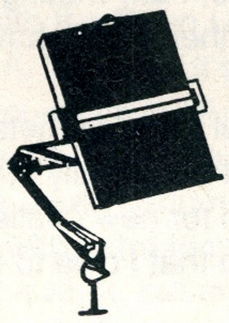

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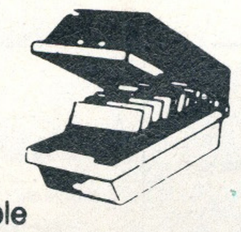

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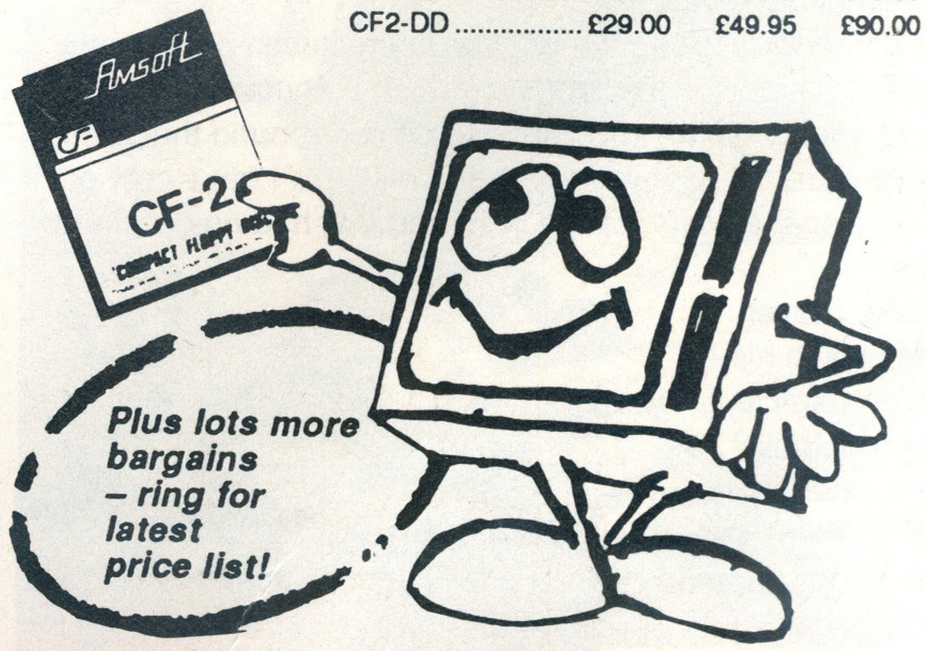

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ON WITH THE ASSEMBLY

Crack that machine code! Steve Patient continues his series on assembly language

To quote from Confucius, 'I heard and I forgot; I saw and I remembered; I did and I understood.' He obviously never wrote machine code. We're going to *do*: straight into it this month with an assembler listing to type in. You don't need any special programs – you have all you need on your PCW systems discs.

How to make it work

Having typed the listing in, you then assemble it – turn it into a .COM file – as follows.

a) You've got an ASCII file PRINT2.ASM. On this disc you should copy MAC.COM and HEXCOM.COM from your CP/M disc (side 3 on 8000s).

b) Enter CP/M and insert this disc. At the A> prompt type MAC PRINT2[RETURN].

c) Then type HEXCOM PRINT2[RETURN]

d) Now there should be a file PRINT2.COM on your disc. Typing PRINT2[RETURN] runs the program.

If you work from drive M: on a text editor then when the assembler throws up errors you can alter the listing quickly. The listing file must have an .ASM filetype or MAC won't talk to it.

After c) a DIR will show a lot of extra files about. They will be called PRINT2.HEX, PRINT2.SYM and PRINT2.PRN. The last one is worth looking at (eg. with TYPE). It gives all the hex values alongside the code. This is useful for getting those DATA statements for BASIC listings.

This is a type-in listing, like any BASIC listing, except it's in assembly language. You need it as plain ASCII, eg. do it as a LocoScript document then make an ASCII file ([f1] Loco 2, [f7] Loco 1). Call the ASCII file PRINT2.ASM (or anything else ending .ASM).

Then you'll turn PRINT2.ASM into a .COM file which runs from CP/M's A> prompt. The program itself asks for your name and then greets you back; not artificial intelligence yet but it's a start.

The first thing you will notice about the assembler listing is that this listing has hardly any numbers in it at all. Instead of numbers we've used **symbolic names** which the assembler will translate into numbers when it does its stuff.

The second thing to notice is that the assembler listing is divided into fields. There are four **fields** in all into which information can be put. These fields must be separated by either spaces or tabs or both. Traditionally tabs are used because they give a neat, readable, layout. Each line must be divided from the next by a [RETURN] and the whole file should be in ASCII.

Field one is the **label** field and must begin in column one; field two is the **opcode** field and must have at least one space or tab between it and the label or the beginning of the line (otherwise it would be treated as a label). Field three is the **operand** field and must have an opcode and a space or tab before it. The fourth field is a **comment** field and must be preceded by a semi-colon if used.

The comment field can be the only field on a line and need have nothing after the semi-colon; however, do not leave completely blank lines in a listing. The label field can also occupy a line on its own, this is sometimes done to make the code easier to follow.

Since it is so easy to comment assembler programs, and so easy to forget just what they are doing, always explain everything. There is no reason not to comment every line. You will be glad you did. If you want to explain some part of the code more fully then take as many lines as you like and simply begin them all with a colon. It will make no difference to the size of the final COM file as the assembler simply ignores comments.

Listing safely

The first thing in the listing is the name of the program on a comment line. It should be followed by a version number and any revisions if you alter the code at a later date; all these comments help keep track of things and while they seem a fuss to start with they make life much easier when there are 150 source files on the disc with names like TEST1.ASM, TEST234.ASM. But you get the idea.

The first actual instruction is a **psuedo opcode**, actually an instruction to the assembler. In our example it is `ORG 100H`. This tells the assembler to take 0100H as the starting point for the assembly process. 0100H is the address at which all CP/M programs load and from where they run but if for some reason you wanted code assembled from 8000H then you could get that by beginning ORG 8000H.

Next we have a `JMP START` which skips over all the data the program uses to the beginning of the actual code. The assembler will work out where that is.

On the following line the comment is `;**EQUATES`. An **equate** is yet another puedo opcode. It makes a label equal to a number so that we only have to remember a label name for the rest of the program. Again this adds to the readability of the code. Once assigned an equate remains in force for the rest of the program and cannot be treated as a variable. It also means you can change a number throughout the program just by altering the EQUATE.

The jump to 0005 (which is how we call the operating system) has been equated with BDOS. In a long program we could glance through picking up all the operating system calls just by looking for the label. Too easy for words.

(Assembler buffs will notice that the labels for equates don't actually need a colon after them with the MAC assembler.)+

Stringing you along

The comment `;**SCREEN CODES` introduce the next section, and coincidentally ushers in a new kind of psuedo opcode. This one is **DB** which simply means include all of the following data as it comes. This data can be strings, `'This is a string'`, which must be in single quotes, or hexadecimal codes `ABH,C0H,12H`. A number with no `H` after it will be treated as decimal. It is also possible to include expressions but we aren't going into that here.

Any time we reference the label `CLEAR` the assembler will substitute the address of the string of bytes. We've terminated all these strings with the `$` symbol for the benefit of the call BDOS 9 which prints a string to the screen until it finds a dollar sign. Very useful call.

Almost all programs have to have messages. In any program intended for future use there will be instructions on using the program, requests for input and error messages. These are essential; there is nothing more infuriating than being confronted by a blank screen and expected to guess what you have to do to make it work.

There is no reason why all these messages, etc, shouldn't go at the end of the program rather than the beginning, or even be interspersed through the code, but putting it all at the beginning seems to be more convenient, after all, that's where you start.

Finally we reach the code proper. This is labelled `START`

Calling BDOS

A good book on CP/M is *CP/M The Software Bus* by A.J. Clarke, J. M. Eaton and D. Powys-Lybbe. Details of all BDOS calls are contained therein.

Speaking technically

Warm Boot
Re-initialising CP/M

Cold Boot
Reloading the whole system

Stack
Last in-first out area of memory

CP/M
Computer Program/Monitor – the operating system

BDOS
Where all CP/M calls go to do their tricks

MAC
A program that turns assembler into Hex

HEXCOM
A program that turns Hex into bytes

simply to avoid having to guess where things begin. Always label and lay out programs in the same way. Getting into the habit of laying things out in a standard manner will pay dividends.

The rest is in code

The program continues by loading reg DE with the address of CLEAR: and calls the PRINT subroutine which makes the actual BDOS call. BDOS 9 needs the address of the string in DE, a number 9 in reg C and then a CALL 0005 to the BDOS. BDOS is synonymous with CP/M and handles all the difficult things like putting a character on the screen or making the disc drives work. All you have to do is learn how to ask CP/M to do these things.

We repeat the same process with the INTRO. Note that the INTRO string doesn't have a dollar sign at the end, this means that all of INTRO2 is printed out as well, including the carriage returns and line feeds. If you need to print out a long message this is the easiest way to do it.

Now we come to the GETNUM routine which has been started differently. It doesn't make any difference to the code but looks more readable. The dollar sign here simply returns an address to the assembler.

The routine GETNUM uses BDOS 1 to get a keypress from the keyboard and stores it at the end of the program beginning from the location labelled NMSTR: As each character is captured and stored the address held in reg HL is incremented by the instruction INX H and the loop repeats with a jump back to GETNM. This process continues until a carriage return is detected: this is done by using a compare instruction, CPI 0DH, compare immediate, which just compares a number with whatever is held in Reg A and sets the sign bits in the flag register depending on the result of an imaginary subtraction; nothing is changed in reg A.

To complete the whole process we need to print the name, or whatever other string we've captured, to the screen. We do this in HELOUT:. First we load reg A with the dollar sign and save it to the end of the captured string. Then we print the HELLO string and finally we print the NMSTR string that we have just created.

The RET instruction right at the end had no corresponding CALL and so will pop the value at the bottom of the stack, which is always zero, and thus causes a return to the JMP at the location 0000H. This will make CP/M perform a 'warm start', giving you back the A> and everything is as it was. It really is that easy.

Fields fantastic

```
LABEL:   OPCODE    OPERAND    ;COMMENT
         OPCODE    OPERAND    ;COMMENT
         OPCODE
LABEL:
;COMMENT
```

These are all valid forms of assembler listing lines. There must be a space or a tab between the fields, only labels or comments can begin in the first column and lines must have something on them even if it's only a semi-colon.

A hex on it

Earlier assemblers all produced Hex files, in which each byte is represented by a number like C4, because files frequently had to be sent over communications links which only allowed 7 bit characters (teletypes for instance). This meant that values over 127 couldn't be sent. The answer was to convert them to hex first. You will find that PRINT.HEX can be typed to the screen.

Stacking up

The stack is an area of memory where values of registers can be saved. It is called a stack because the last thing on is always the first thing off. The current top (really the bottom) of the stack is pointed to by the register called the STACK POINTER. The stack always grows downward in memory. The stack can be used to pass values to subroutines.

```
;*********PROG TO PRINT MESSAGE AT SPECIFIC LOCATION ON SCREEN*******
;
 ORG   100H     ;TELL MAC WHERE TO PUT PROGRAM
 JMP   START    ;JUMP OVER DATA TO ACTUAL CODE
;
;**EQUATES
BDOS  EQU       0005H           ;WHERE WE GO TO GET CPM TO DO STUFF
SCPRNT          EQU     9       ;GIVE NICE NAMES TO BDOS CALLS-SCREEN PRINT
GETCH:          EQU     1       ;GET A CHARACTER FROM KEYBOARD
;
;**SCREEN CODES
CLEAR:          DB      1BH,45H,'$'             ;CLEAR THE SCREEN
HOME: DB        1BH,48H,'$'                     ;MOVE CURSOR TO HOME
LOCATE:         DB      1BH,59H,2FH,34H,'$'     ;CURSOR MOVE STRING
;
;**MESSAGES
INTRO:          DB      'THIS PROGRAM WILL PRINT HELLO AND YOUR NAME.'
INTRO2:         DB      0DH,0AH,'WHAT IS YOUR NAME? TYPE IT IN AND RET',0DH,0AH,'$'
HELLO:          DB      'WELL, HELLO THERE, $'
;
;**START OF PROGRAM CODE
;
START:          LXI     D,CLEAR
 CALL  PRINT
 LXI   D,HOME
 CALL  PRINT
 LXI   D,INTRO  ;UP TO NOW ALL WE'VE DONE IS CLEAR THE SCREEN AND
 CALL  PRINT    ;PRINT THE INTRODUCTION TO THE SCREEN
 LXI   H,NMSTR  ;LOAD HL WITH ADDRESS FOR NAME TO LIVE
GETNM:          EQU     $       ;VALID AND READABLE WAY TO START ROUTINE
 PUSH  H        ;SAVE VALUE IN HL BEFORE BDOS CALL
 MVI   C,GETCH
 CALL  BDOS
 POP   H        ;GET SAVED VALUE OF HL BACK
 CPI   0DH      ;DID WE GET A RETURN?
 JZ    HELOUT   ;IF WE DID - QUIT LOOP
 MOV   M,A      ;SAVE CHAR IN A TO ARRAY
 INX   H        ;INCREMENT ARRAY POINTER TO NEXT POSITION
 JMP   GETNM    ;LOOP FOR NEXT CHARACTER
HELOUT:         EQU     $
 MVI   A,'$'
 MOV   M,A              ;TERMINATE ARRAY WITH DOLLAR SIGN
 LXI   D,LOCATE;MOVE CURSOR TO MIDDLE OF SCREEN
 CALL  PRINT
 LXI   D,HELLO          ;PRINT HELLO STRING
 CALL  PRINT
 LXI   D,NMSTR          ;ADDRESS OF NAME STRING
 CALL  PRINT
 RET                    ;THIS CALLS BOTTOM OF STACK - 00 -FOR WARM BOOT
;
;**PRINT SUBROUTINE
PRINT:          MVI     C,SCPRNT
 CALL  BDOS
 RET
NMSTR:          EQU     $       ;PUT YOUR NAME AFTER ALL THE CODE IN CASE IT'S LONG
AT SPECIFIC LOCATION ON SCREEN*******
;
```

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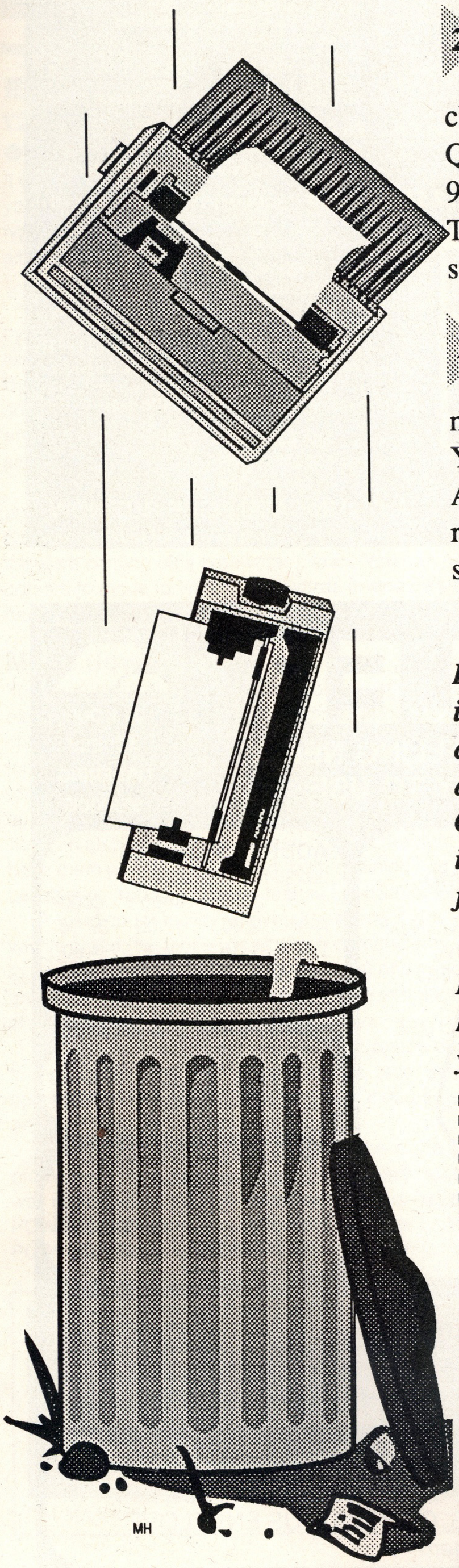

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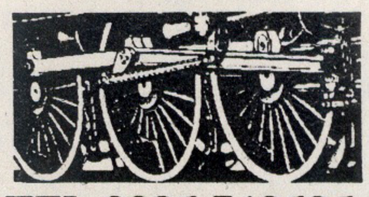

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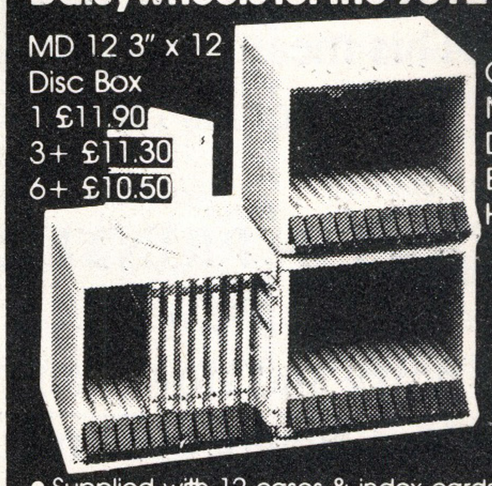

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STATIONARY E-TYPE

Digita's 'revolutionary' typewriter emulator is here: Rob Ainsley investigates

Though the PCW replaced the typewriter, there are times when you don't actually need the full power of a word processor to do the job in hand – when filling in a form, for instance. LocoScript has a direct printing feature to imitate a typewriter, but E-type sets out to do it better. Does it succeed?

E-TYPE

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It doesn't sound promising – paying twenty-five quid to turn your five hundred pound PCW back into a fifty quid typewriter. Anyway, you've got 'Direct Printing' in LocoScript already, which imitates a typewriter pretty well. So what does E-Type do that LocoScript doesn't?

Pressing D in Loco's disc manager lets you output line-by-line to the printer. You type your text, edit if necessary, and as soon as you hit [RETURN] it gets sent to the printer. By pressing [PTR] then [f6] you can alter the left offset, and so move the print head rightwards any amount you like. This enables you to fill in forms, for example, and use the PCW just like you would a typewriter.

On starting up E-Type you see a few commands listed and a representation of the top of a sheet of paper. As you type, the text appears on the paper which moves up just as if it were coming off a typewriter platen. You can use the cursors to move forwards, backwards or downwards, but not back over text already typed and not upwards

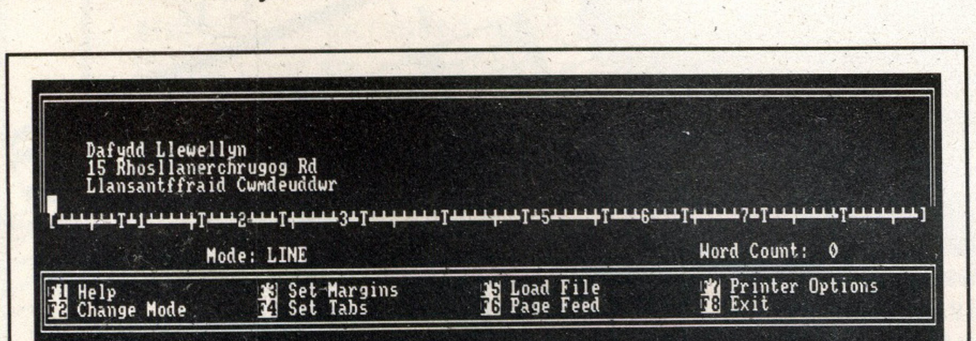
Mode down

You have several different modes of operation: you can have each line printed (just like Loco's direct printing), or go for character-by-character printing. This is what you'd use for forms as you can press the space bar to move across the form until you're in the right place for the slot to fill. It's rather quicker and more convenient than Loco's Direct Printing. You can also have things aligned against the right margin or have them printed out justified, both of which can be done in LocoScript. You can't centre text as LocoScript lets you.

A word count facility lets you know how many words you've typed (for those forms which demand why you want to succeed in not less than 2,000 words) and various options are open such as setting margins, typing in bold, turning the bleeper on and off, word wrap and so on.

When you finish typing you have the option of saving the format you've been working in (margins, tabs, mode of operation and so on) for another time. Of course you can't do this in Direct Printing in LocoScript.

The theory is all well and good, but there are a lot problems. The manual – while professionally put together, well up to the usual Digita standards – is not specific to the PCW and rather irritatingly has 'Not available of *(sic)* the PCW' after many functions described. It misses out a lot of explanations of things everybody will find confusing. For example, on our pre-production copy many of the commands are shown on the menu as `^L` with no indication as to what ^ means. It isn't an up-arrow ([EXTRA]-semicolon) – it is in fact standard computing jargon for the [CONTROL] key, which on your PCW is [ALT]. But how many typists, given a PCW and this program and told to get on with it, would know that?



The E-type screen

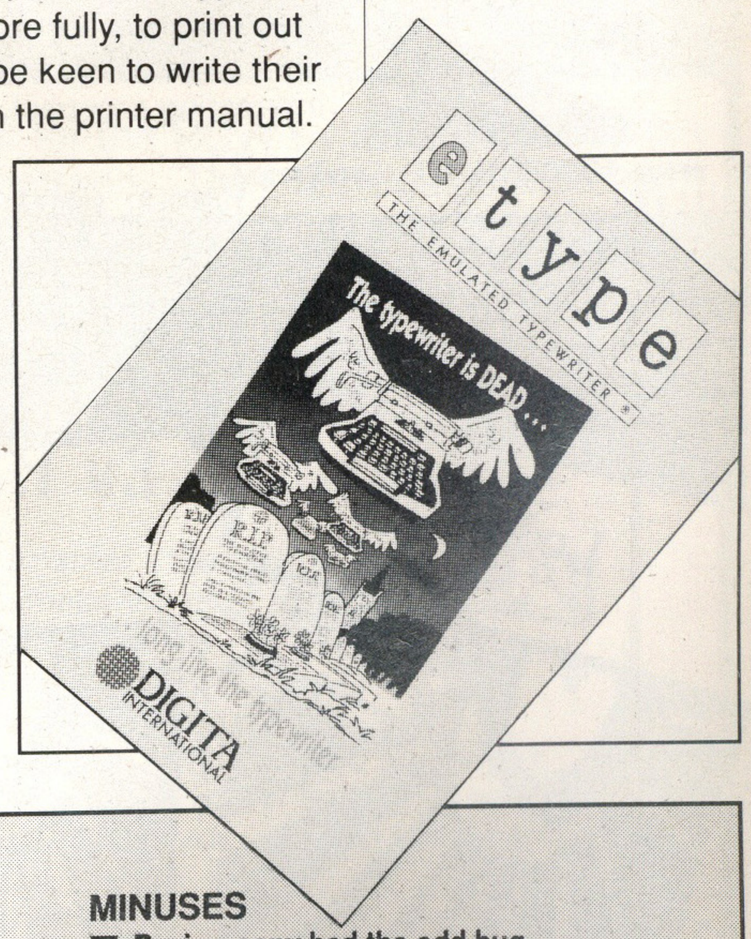
Dangerous driver

If used on the 9512 there can be problems with the printer – you must rename a 'printer driver' file. If you don't you get effects like the program ceasing to work for several seconds at the end of a line, finally coming back with a helpful! 'LPT not ready – Retry, Ignore or Cancel?' message, or spurious zeroes appearing at the beginning of lines.

Attempts to print out a £ sign elicit a beep. Trying to turn off the beep, even armed with the knowledge that ^L means [ALT]L, is no use as this command has no effect. E-Type has facilities letting you control the printer more fully, to print out £ signs for example, but few typists will be keen to write their own printer drivers according to codes in the printer manual.

The idea behind E-Type isn't a bad one, except that it doesn't really do anything that LocoScript (which you have already for free) or Protext can't do. Our review copy had the odd bug, though Digita have said they have been fixed for the production version.

But even so, at twenty-five quid it's ridiculously overpriced. For that money you could buy Pocket Protext, or a second-hand manual typewriter, or a nice dinner for two at a good Indian restaurant. See you at the Bath Tandoori. ■



Irrelevant note

An old chestnut quiz question asks you for the longest word you can type using only the top row of the typewriter. The stock answer always given is TYPEWRITER, ho ho. A shame then that PROPRIETORY, also typable on the top row only, is one letter longer.

E-TYPE

PLUSES
▲ Almost as easy to use as a typewriter

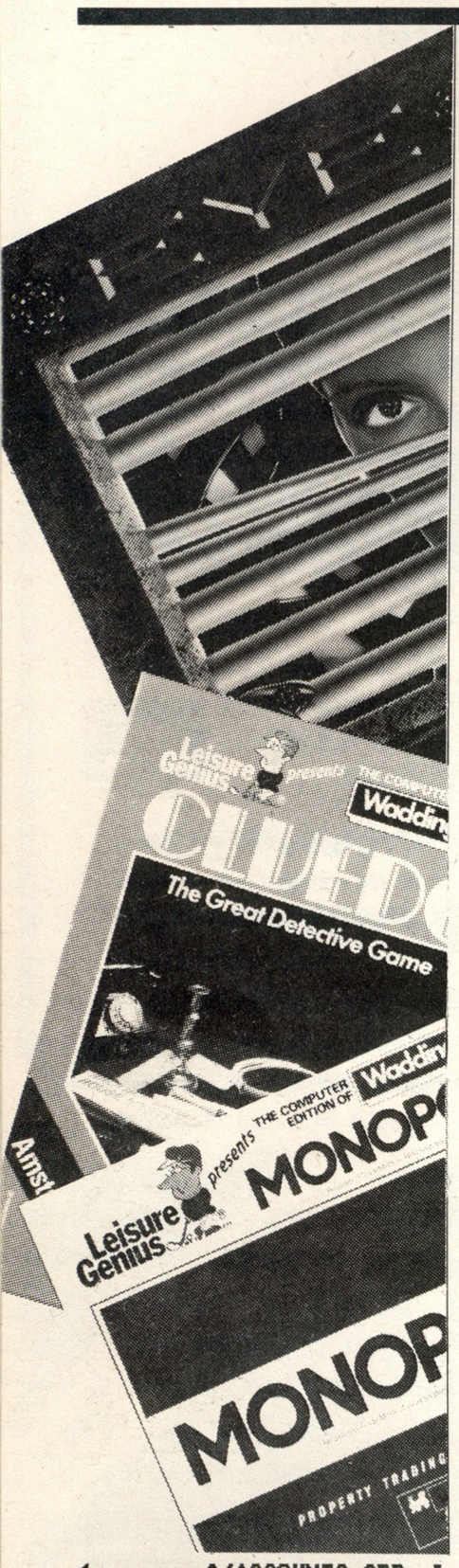
MINUSES
▼ Review copy had the odd bug
▼ Does nothing significant that LocoScript can't
▼ Sloppy conversion for PCW
▼ Doesn't print £ signs

RANGE OF FEATURES	1/5	EASE OF USE	5/5
PERFORMANCE	3/5	DOCUMENTATION	2/5

***8000 PLUS* VALUE VERDICT 1/5**

TOMORROWS WORLD

What's in store for the PCW in the coming year? We look ahead...



What can PCW owners expect in 1989? The cynics say the PCW market is dying, that there'll be no new software, that the PCWs 'have already been discontinued'...

Howard Fisher, Locomotive Software's marketing man, disagrees. 'The market is very buoyant', he said, citing staggering advance orders for LocoFile, their database program that works from inside LocoScript. 'The PCW is still the only machine that serious home users can afford even now. Buy an Atari, for instance, and by the time you've got yourself a printer and reasonable word processing software, you've spent eight or nine hundred pounds'.

So what will Locomotive be bringing out for the PCW public? LocoScript 3? LocoDiary? LocoSpread? 'Well, we'd like to bring out everything', he said, 'but every product takes months of research and development. Let's just say that this time next year there'll certainly be one or two more products in the LocoScript 2 family'.

Locomotive have had a lot of enquiries about the possibility of a PC version of LocoScript, and they are almost certainly working on it, though it would be months before anything official were announced. Though many pundits dismiss such a program as appealing only to PCW owners who also have PCs (including of course portable PCs) it's interesting to speculate on the potential market if a PC LocoScript were to appear at or about LocoScript PCW prices. Word processors for the PC cost at least £70-£100, and ones with LocoScript's features (such as proportionally spaced justified printing, Fisher noted) rather more.

'On the hardware side, one possibility someone could take up would be a 512k memory add-on – a pack you plug in the back of the machine,' he said. 'It's certainly feasible in theory'. 1024k of memory on a 9512 or 8512 sounds an interesting prospect...

Not only but also...

What else in 1989? Well, it's doubtful the much-vaunted advent of computer CDs will come to the PCW. Their fantastic capacity for data storage (500Mb, ie. 2890 three-inch discs, ie. the name and address of every working person in the UK!) is just beyond CP/M. But laser printer drivers are perfectly possible and would enable you to typeset using LocoScript plus a laser printer.

A speech synthesiser will be on the market for certain. But it's about time someone brought out a music processor for the PCW, enabling you to write and print out staves of music just like text documents.

The educational software for the PCW is still pathetically small considering the potential market. Let's have some intelligent educational packages for GCSE and home studies – this is where you at home can join in. Such programs have a reputation for being bad sellers, but that's for other machines. As we all know, the average PCW owner – not that there is such a thing – is not like the average computer owner – not that there is such a thing as that either.

Games will continue to come out at the rate of one or two a month, and the standard will continue to improve despite the comparative torpor of the PCW games market. Graphics in adventures is now a standard feature and recent games like Lancelot and Corruption are encouraging signs for the gamer in 1989. But how about a few more 'thinking' games – a PCW version of Channel 4's Countdown, Mah Jong, or Go for example?

One thing's for certain. The PCW market ain't dead yet, and despite the onslaught of 16 bit machines, Amstrad are going to sell a fair few 8000s and 9512s in 1989. And there'll be plenty for those buyers in the way of new products. ■

Don't ring us up asking about these products! They're all uneducated guesses, wishful thinking and artist's impressions. Well, almost all. But they would be nice, wouldn't they?

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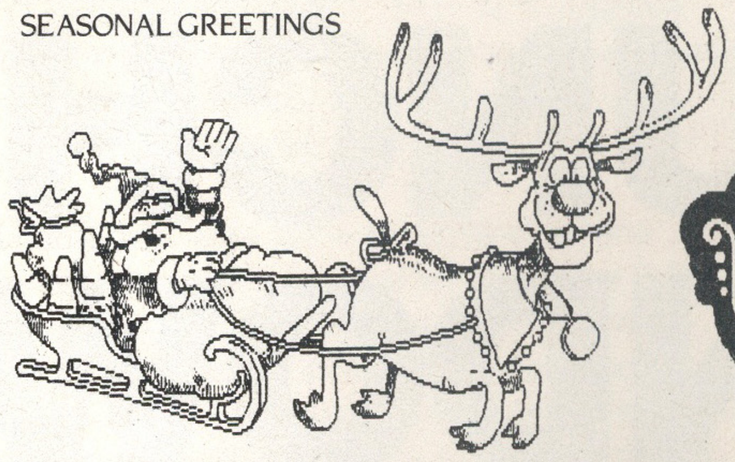
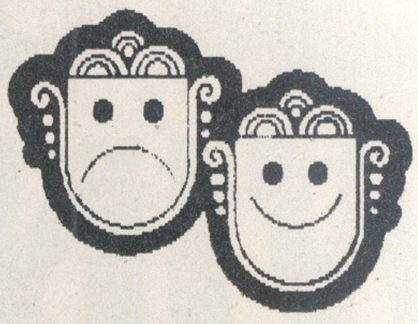
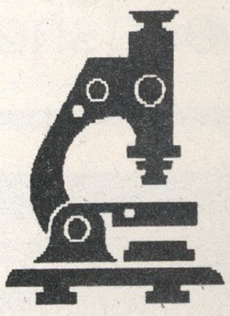


CLUBS & SOCIETIES



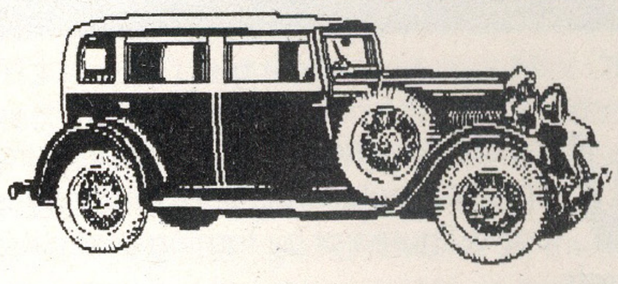
ABCDEFGHIJKLMNOPQRSTUVWXYZ

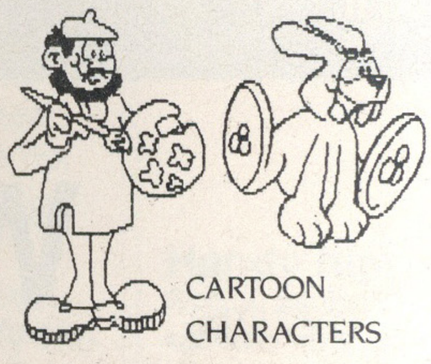


USEFUL SYMBOLS, ETC

ABCDEFGHIJKLMNOPQRSTUVWX

GENERAL INTEREST





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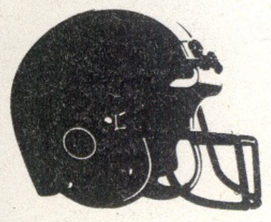

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LAUNCH WINDOWS

Part 10 of the Mini Office tutorial series: graphics from the spreadsheet

By now the workings of Mini Office's excellent graphics and spreadsheet packages are clear. And of course you can put figures from the spreadsheet directly in the graphics module to illustrate your sales figures or put life into those statistics, as you know from your manual. Except that your manual doesn't actually tell you how to do it...

Windows are the key to using and presenting your spreadsheets effectively, either by printing them out in figures or by turning them into graphs and pie charts.

So it's not surprising that windows are almost totally neglected by the manual, glossed over in the READSPRD.ME file which is supposed to help you, and are very confusing to use at first!

The principle is that you can select only certain rows and columns from your spreadsheet and put these in a window – you're allowed up to seven at a time. Just like real ones, windows must be rectangular – you can't have, say, all of row 5 and 7 and all of columns 12-14.

Once you've set up windows you can do things like print out the whole spreadsheet with a window (a totals column, perhaps) in bold. Alternatively you can just print out a window by itself, or view the window on screen, thus reducing very large spreadsheets to the basics so they're a bit easier on the eye. Or you can use the data in the window in the graphics module and get it drawn straight into pie charts and bar charts – great for illustrating stats and figures. Not only does this save you re-entering information form the spreadsheet into the graphics package, it means that in the event of an update to the spreadsheet figures you update the graphics data file to correspond almost immediately.

Manual, you're a waste of space

The manual mentions nothing about windows other than that they exist. There is a file called READSPRD.ME which you can print out by running up CP/M and at the A> prompt pressing [ALT]P. The PCW bleeps. Then insert your Mini Office disc, side 3, and type `TYPE READSPRD.ME`. Details on windows and graphics sets are sent to your printer. When it's finished press [ALT]P again to stop this 'printer echo' (the PCW doesn't bleep). Whether you'll be any the wiser afterwards is another matter.

Food for thought

Consider a spreadsheet like the one below detailing Green Foods plc's sales figures in Humberside. You want to emphasise the headings (in the top left three rows) and the columns containing the product names and the total sales.

In the spreadsheet program ('Spreadsheet' from the main menu) and with the spreadsheet loaded ('Load/Save', insert your data disc and give the name) while you're editing your spreadsheet press [PAGE]. You see 'Window 1' at the top. Pressing [PAGE] again takes you to other windows, up to 7 then back to the spreadsheet. [DOC] will leave the window and go straight back to the spreadsheet.

At the moment window 1 is empty. By pressing the cursors you can select a cell from the spreadsheet which is displayed on screen but nothing is in the window yet. You only see the cells to help you fix your position on the main spreadsheet.

What you're going to do is map out the columns you require, then the rows. For your first window you want columns A, B and H, and all the rows.

Use the cursors to go to cell A1. [f6] includes columns in the window, [f8] rows. So you press [f6] 'Include column', press [RETURN] in column A, cursor right, press [RETURN] for B, cursor over to H and press [RETURN] again, then finish with [SPACE]. At the moment you've got A, B and H selected at the bar across the top.

Now you can 'stretch' this one-line-deep rectangle downwards. Press [f8] and [RETURN] to select rows, cursoring downwards. The table of figures grows before you. [SPACE] finishes. You can be selective about the rows if you like; cursor past any you don't want.

Note that if you move between column B and H, the intermediate columns appear when you're going through them but don't stay on screen.

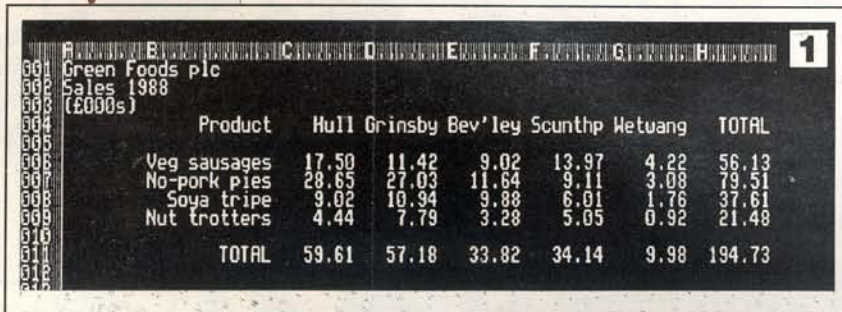
If you want to remove a column or row, press [CUT], then R or C to select row or column, then [RETURN]; when you move away it will disappear. You can edit cells as normal, and the amendments will affect the main spreadsheet (and vice versa). You can't wipe a window, you just have to delete all the rows and columns in it.

The merry window

Now if you print the spreadsheet as normal, except that on the print menu you select 'Window 1' instead of 'Windows off', the figures in the specified window come out in bold. If you like you can just print a window, though you have to select the window first from the 'Alter spreadsheet' menu ('Windows').

Now for the graphics data. A window saved as graphics data *must have text as the top row and leftmost column of the window*. Probably from this example you'd want to save a window with row 4 at the top and column 2 at the left.

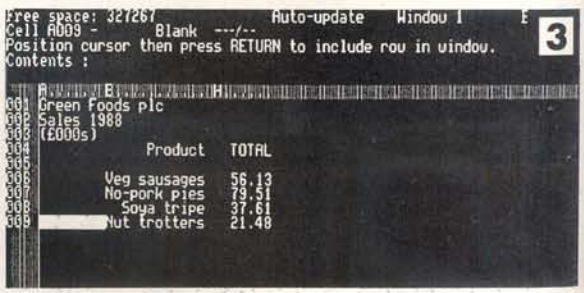
So, put this in window 2 by pressing [PAGE] appropriately and map out a rectangle as above from



1 Your spreadsheet

2 The top row of the window

3 Stretching your one-line-deep window downwards



columns B to G inclusive and rows 4, and 6 to 9 inclusive. You're missing out the blank lines (pointless and a nuisance when they turn up in the graphics program) and the totals (the graphics module does its own totals so they're superfluous).

Through 'Load/Save', take 'Save graphics data' and make sure the menu thereafter is switched to window 2 (or whichever you've put it in). You also have the choice of making the rows or columns the data sets. If you choose 'columns', each column will be regarded as a data set, meaning for example you could produce a pie chart for Hull or Beverley showing the relative sales of each product. If you choose 'rows' then you will save the data such that each product will have a graph, for example a pie chart for Soya Tripe showing the distribution of sales in each town.

[ENTER] changes options; when they're as you want, press S to 'continue' and save the data in graphics form.

The next screen lets you select the data sets you want to save. You probably want to save all of them (though you have a maximum of ten, so this won't be possible on big tables of figures) so press [ENTER] for each one you want in the graphics set and S when you're finished. The graphics data will be saved as a file ending .GRA.

Graphic jam

Leave the spreadsheet, saving the spreadsheet data first ('Load/Save', 'Save data') and then insert your Mini Office disc as prompted. Select the 'Graphics' program. When the graphics menu appears select 'Load/Save', insert your data disc again and specify the file you've just saved.

From now on it's plain sailing and downhill all the way. You treat your data set just like data you key in manually and produce pie charts, bar charts, line graphs and so on. Easy eh?

Full details on how to use the graphics module of Mini Office appeared in issue 22 of 8000 Plus, July 88, page 16. Users of the graphics package will smile wryly at the word 'pounds' in the screen shot on these pages – Mini Office's graphics module will not let you put £ signs into any headings! ■

Printout using Window 1 'on'

```
t      Hull Grimsby                    Wetwang    TOTAL

      17.50    11.42                     4.22    56.13
      28.65    27.03                     3.08    79.51
       9.02    10.94                     1.76    37.61
       4.44     7.79                     0.92    21.48

      59.61    57.18                     9.98   194.73
```

4

```
     A          B          C          D          E          F          G          H
001  Green Foods plc
002  Sales 1988
003  (£000s)
004
005                Product     TOTAL
006
007          Veg sausages      56.13
008          No-pork pies      79.51
009            Soya tripe      37.61
010            Nut trotters    21.48
011
012                TOTAL      194.73
```

4 The window finished

5 The window for the graphics data

5

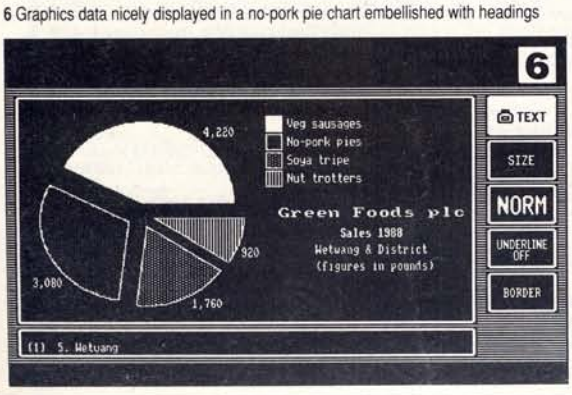
```
Free space: 327267                Auto-update     Windou 2
Cell B004 -        Text     -Product/Product

Contents :Product

     B          C          D          E          F          G
004  Product    Hull       Grimsby    Bev'ley    Scunthp    Wetwang
006  Veg sausages   17.50      11.42      9.02      13.97      4.22
007  No-pork pies   28.65      27.03     11.64       9.11      3.08
008  Soya tripe      9.02      10.94      9.88       6.01      1.76
009  Nut trotters    4.44       7.79      3.28       5.05      0.92
```

6 Graphics data nicely displayed in a no-pork pie chart embellished with headings

6



Usual details

Mini Office is available from Database (0625 878888) for £29.95 or from mail order (such as our Special Offers pages!). Sigma Press do a tutorial book on Mini Office called 'All in one Business Computing' by John Hughes for £11.95; details on 0625 531035.

Handy hint

Press [+] any time in Mini Office and letters will appear at the left of each item in each menu. Pressing that key has the same effect as moving down with the cursors to that item and pressing [ENTER]. For example W selects the word processor from the main menu, P selects 'Print' from most print menus and so on. Pressing [-] removes the letters from the screen though the trick works whether they're there or not.

The story so far...

This is the last of the tutorials on Mini Office. Next month to round off the series there'll be a compilation of tips and information missed out from the manual, detailing procedures like exporting information from the spreadsheet, the database, the word processor and so on.

Covered previously:

Issue	Month	Subject
19	Apr 88	Database: setup, data entry, formulae
20	May 88	Database: sorting, selecting and printing
21	Jun 88	Mail merging
22	Jul 88	Graphics module: making graphs from supplied data
23	Aug 88	Word processor: basic editing, printing out
24	Sep 88	Word processor: blocks, layouts, special features
25	Oct 88	Communications
26	Nov 88	Spreadsheet – what they're for, formulae
27	Dec 88	Spreadsheet – replicating, constructing tables

One important amendment. In issue 21 we said that when you're constructing a letter for the mail merger, Mini Office isn't clever enough to close gaps, ie. if you leave a slot of five letters for the first name and ten for the surname, the name 'John Smith' would come out as `John  Smith` **and 'Bartholomew Smythe-Hamster' would come out as** `Barth Smythe-Ham`.

Bong! We didn't know that if you specify a length of zero for the incoming information in the mail merge letter, Mini Office will close up the gaps for you. Though a note to this effect now appears in the hastily added 'Mail merging' section of the manual on page 69, our version only went up to 68, so that's our excuse!

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WIRTH WAITING FOR

Is there a way to learn a new programming language easily? Pecan say yes; Steve Patient looks at PDQ Pascal

PDQ PASCAL

£29.95 ● Pecan Systems (0272 425012) ● 8512s/9512s only

The immediate impression is that this is UCSD Pascal, a venerable implementation of the language (in slightly non standard form) popular in America for many years. The programs USCD produces need a 'runtime module' to work – ie. if you wanted to sell a program you'd written, the users would need the runtime module on their disc to make it work. If you wanted to sell it with your program you'd have to negotiate a deal with the original suppliers. It's really halfway between a compiler and an interpreter.

The first thing to be discovered, and it isn't on the outside of the package, is that the system will only work with an 8512 or a 9512. This is because the whole lot is a single file occupying 300k on the disc.This is carrying integration a bit too far.

To get the system running it is necessary to type `PDQ PDQ.VOL`, which opens the 300K library file and brings up a command line at the top of the screen. From this the editor can be selected and, apparently, a number of other facilities.

Not only must you use the editor provided but your files remain locked up in the giant library file. PDQ Pascal provides no way to export your files from the library file to a separate file usable by another editor; the system is totally self contained.

Getting Wirth and Wirth

Once a file is created and saved to the library file it can be run. The program will, after being given several more names, execute and then deposit you back at the first menu. Programs also remain locked into the library file system and apparently cannot be used apart from it. This means that the PDQ system can only really be used to learn the Pascal language, not to make any practical use of it.

This sequence of events, edit and run, requires a large number of keystrokes and an almost constant churning of the disc drive as the system accesses the library file for its resources. The process involves a great deal of waiting.

Putting the library file in drive M speeds things up a little and cuts down the wear on the drive but leaves no room on M: for anything else. Also you must remember to copy the library file back to disc. It is essential to take backups when working with PDQ Pascal as a library file maintains its own directory within itself and any corruption there makes the file unusable. This weakness is not mentioned in the manual.

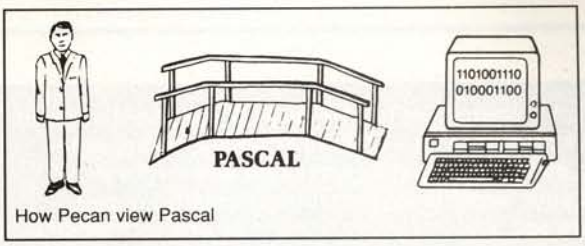
The convention adopted by PDQ Pascal for the naming of files is guaranteed to confuse anyone new to CP/M. Up to fifteen characters are allowed, for example, `VERY.LONG.TITLE`, is acceptable. Text files are always given the filetype .TEXT, which is of course one character longer than CP/M permits. The editor will not recognise a file without this type.

Pecan nuts

In its original form UCSD Pascal proved a reliable and popular compiler though it must be remembered that there was little competition when it first appeared.

Pecan say you can upgrade to UCSD Pascal 'at a reasonable cost' – £119.54 inclusive of VAT Postage and packing less the cost of PDQ Pascal.

Pascal is often the first choice of a language to learn after BASIC. The structures are similar, pretty straightforward and it is quite hard to write incomprehensible code. Since Pascal code is virtually standardised it *should* be easy to take from one machine to another so that you're not restricted to the PCW.



How Pecan view Pascal

On the plus side it has to be said that for a complete beginner unused to anything else PDQ Pascal would provide a reasonable training ground. The system is quirky but usable and the manual leads you through the elements of Pascal in easy stages. You would still need another book on Pascal for comparison and detailed descriptions of function usage.

On the minus side there is the fact that you can't use any other Pascal code you might come across, since you are unable to read in and modify existing programs to use under this system. The editor is a dog (the PDQ editor that is) and PDQ Pascal abuses CP/M rather, making the system very slow and unwieldy. The PDQ system is incompatible with everything else you might use on your computer.

What's in a name?

Pascal was designed by Niklaus Wirth to teach structured programming. It is named after Blaise Pascal, the mathematician. Pascal invented a mechanical adding machine earning him a mention in most accounts of the history of computing.

HiSoft v Pecan

Inevitably comparisons will be made with the HiSoft Pascal 80 compiler. This is a modern implementation of the language and comes with a full screen, configurable, program editor. Pascal 80 is a very fast compiler that produces stand alone .COM files, ie. you can give them away or sell them to your friends and they won't need anything extra to run them. When you hit an error, HiSoft's editor will automatically put you back into the editor at the line with the error.

Ease of programming is so closely tied in with the way the editor works that a co-operative editor must be an important consideration when buying a new language.

HiSoft's manual doesn't teach you Pascal – while it's an exellent guide to the package, you'll need a beginners' book if you've never used it before – but as a program development package it's more convenient, faster and more commercially viable.

PDQ PASCAL

PLUSES
- ▲ Cheap

MINUSES
- ▼ 300k library file won't work on 8256.
- ▼ Quirky, confusing to use
- ▼ Self-contained – slow and you're stuck with the limitations

RANGE OF FEATURES	5	EASE OF USE	2
DOCUMENTATION	2	PERFORMANCE	2

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THE TAKEAWAY COMPUTER

Can portable computers change your way of life? Steve Patient looks at the current scene

Your PCW is no doubt a permanent feature of your study or bedroom now. But if you move around at all – staying at hotels, taking notes in libraries, working on trains, doing business on site – your PCW might have whetted your appetite for portable computing power.

Fifteen years or so ago a portable computer was one with wheels attached. Before you knew it there were computers that could be carried by a couple of strong men. In the last few years computer portability has finally become a practical proposition. But what are the benefits? What extra facilities does it offer over the PCW in your study or office?...

Many gurus of the computer industry believe that a truly portable, extremely friendly and powerful enough computer could fundamentally alter the way the majority of the population view their offerings.

If this happened then computers could go the way of video machines, telephones and calculators and become simply a tool that everyone has (or at least thinks they ought to have). To illustrate just what that could mean to manufacturers consider that Customs and Excise have given up counting video recorders and now measure them by the tonne!

There is still some way to go. Even in these days of million selling PCW machines there are still a lot of people who view computers of any kind with suspicion. Far from regarding them as useful tools difficult to do without they perceive them as intrusive and possibly dangerous devices. Only recently has television, for example, stopped portraying computers as rooms full of flashing lights and dials presided over by grinning maniacs in white coats.

For twenty years the electronics industry has been furiously competing to reduce both the size and the price of its products while simultaneously increasing the power. The fact is that people are never satisfied, whatever they've got they want more. In computing terms this means being able to make use of powerful programs that don't require too much learning, at any time, and any place.

For the computer manufacturers portable computing has become a kind of Holy Grail. Science fiction writers forecast that its time would come as long ago as the nineteen forties but the idea finally gained respectability with Alan Kay, a computer visionary employed by the Xerox corporation, who proposed the Dynabook concept in the early seventies, something the size of a paperback with the power of a desktop computer. But many different technologies had to come together to make his dream feasible.

Pulling up roots

In an ongoing attempt to satisfy the desire for a machine that will travel with you as lightly and unobtrusively as your shadow, and coincidentally reap the rewards of changing our basic perception of computers, the electronics industry is taking two slightly different approaches.

The first, and main thrust of their efforts, has been to try and squeeze everything that goes into a desktop computer into a portable machine. The early attempts at this were hampered by the lack of any display technology other than the TV style cathode ray tube. This resulted in machines that looked much like a portable sewing machine and weighed about the same.

These machines were always tied to the mains electricity supply because of the heavy power demands of CRT's and the large disc drives. With the coming of Liquid Crystal Displays (usually used for watches and calculators) these machines could suddenly be half the size and weight. Along with the smaller and less demanding 3.5" disc drives and low current microprocessors it finally became possible to throw away the mains lead.

Battery powered paper

The other philosophy followed by portable computer designers was to try and alter the very concept of a computer. Instead of working down from mainframes they worked up from a sheet of paper. The dream here is the 'Dynabook' concept – something as simple as a notebook but with greater functionality.

If you could buy a notebook that would understand the words you wrote on it, would do calculations written on it automatically, would remember times and dates, birthdays and meetings – and remind you of them; a notebook that would sort out data for reports, answer questions and even connect you to the electronic notebooks of your friends and associates so that you might treat the two books as one you shared in common – you might throw away your filofax and buy one.

It isn't hard to see how electronic paper could alter the way we live quite dramatically. For example, working on your desk at home you could be on anyone else's desk at the same time. A note to your library would place the book of your choice in your own notebook for reading. Ask a question and your notebook would research the answer for you automatically.

In many ways the electronic paper approach requires a considerably more powerful technology. To make power transparent to the user requires even more power. It is, however, a more elegant approach to the problem.

TOSHIBA T5100

£5055.00 ● Toshiba Information Systems (0932 785666)

At the very top of the portable tree are the powerful MS-DOS machines – 'portable PCs'. Boasting the kind of facilities once restricted to a company mainframe the Toshiba T5100 portable must be in the top branches. Its 80386 microprocessor, 32 bit data path (cf. 8 on the PCW) and 32 address lines (16 on the PCW) mean it whips along at 16 megahertz (3.6 on the PCW) making it about 20 times faster than the PCW. On top of that it comes with 2 megabytes (2000k) of memory (512k on an 8512/9512). Even if you don't know what the figures mean, it still sounds impressive.

This dark grey portable comes with a 1.4 megabyte 3.5" floppy disc drive and a 40 megabyte hard disc. The whole thing is built to the size and weight of an attaché case (about 15 lbs). The lid opens up to reveal the keyboard and screen, and the screen is itself beautiful to look at.

It has a gas plasma display which consists of two layers of glass with a thin gas in between. Tiny wires on the insides of the glass can be electrified. When one going up on one side is charged and one going across on the other side is likewise charged the gas at the point where they pass glows like a tiny orange neon bulb.

The display is rock steady (since the wires can't move) and doesn't flicker at all. The only drawback is that since it is actually viewed by emitted light – and there isn't enough – very bright ambient light can wash out the display. No good for a sunny beach, but you wouldn't want to risk getting sand in the works anyway.

Part of the (non-financial) price you pay for a machine as powerful as this is that it must have a mains power supply for the fan, the hard disk and the current-hungry memory.

This isn't as much of a problem as it sounds since the kind of person who buys one of these is unlikely to be working in a field, there wouldn't be anyone there to see their pride and joy.

This means business

So why would you consider buying a machine with the kind of power this one has? Where does it fit in? In some ways it really is a desktop machine since it needs a mains supply. The keyboard is a bit on the narrow side – less than 12" wide – and fitting all the keys required by MS-DOS software into this amount of space requires a lot of compromises. So many in fact that if you are familiar with the standard 102 key layout this will give you problems. In some ways it would be better to use this machine all the time to avoid the constant irritation of trying to remember where the various key functions are.

For an engineer, or an architect making heavy use of CAD (Computer Aided Design) packages a machine with the power of the T5100 makes sense. Since the T5100 has the power supply built in there is no more to do than pull the lead out from the back, coil it up and stick it in your case, The hard disc looks after itself (they normally need a special parking routine), the machine can now be folded up and is ready to go in about twenty seconds – setting it up again is just as fast – if you do have to take it all around at short notice this is very convenient.

In practice a computer as powerful as this represents a kind of overkill and tends to be bought as a status symbol for top executives, to go with the Jaguar car and the Pierre Cardin watch. Being seen with a something like the T5100 says something about you.

The list price is a hefty £4,395 plus VAT. A modem for the machine is another £350. For that money you can buy ten or more PCW 8256's and simply leave them everywhere you go. Then all you'd have to carry around would be a single disc, surely the ultimate in portability? This is the machine for the executive who has everything and will look good alongside the hand tooled Filofax. A machine to drool over but don't leave it lying around in your car.

AMSTRAD PPC

£458.85-£746.35 ● Amstrad plc (0277 228888)

Amstrad came into the portable market with an unusual and aggressively priced offering. Unlike most other portables in the MS-DOS market which

What about my PCW?

How well can your portable and your PCW work together? LocoScript only works on the PCW, not on the PC (just now, anyway...). This means you'll have to use another word processor – Protext, even WordStar, perhaps – if you want to work on the same files on both machines.

You'll certainly have to buy connecting cables and probably special software to pipe stuff from one to the other – your dealer will advise on the type for the portable you're interested in. Few, if any, PCW programs work on other machines; Masterfile, WordStar, SuperCalc 2, Protext come to mind but that's about it. Basically only simple text ASCII and data files can move between the two. You certainly can't expect any PPC programs to work on your PCW or vice versa for example.

Buying a new computer is often only half the expense – you'll end up getting more software, connecting cables, interfaces, an extra printer...

Palm of your hand

Atari are launching a Pocket PC 'in January' designed by British company DIP, formed by two ex-employees of Psion. The machine will use Credit-card sized 'discs' and weigh under 1lb. Psion themselves are rumoured to be working on something similar.

Psion by me

PSION ORGANISER

£114.50 ● Psion (01-723 9408)

The Psion organiser is a hand held computer rather than a portable (a distinction made by marketing departments) intended for people who do not type and therefore don't care about keyboards. The display area is 2 lines by 16 columns so you need to know your way around your own files. Weighing in at 250 gms (about 0.5 lbs) you are unlikely to find a more portable computer than this.

The Psion organiser comes in 2 models, the CM and the XP. The main difference is that the CM has only 8k of memory built in and the XP has 32k. The XP can also accept 128k datapaks and 32k rampaks. The CM will only accept 64k datapaks.

There is a powerful programming language built in, OPL, or you can run a variety of applications from a datapak. There is an RS232 interface to allow connection to other computers or to a modem. Bar code readers and magnetic card readers are also available. These give some clue as to the Psion market – retailing and stock control.

Because of the sheer convenience of the Psion organiser – it will literally go in your pocket – the shortcomings of the display and keyboard tend to be discounted. The fact that the basic model costs only £99.50 means that a company can practically write it off to petty cash. It also means that someone wanting to get into portable computing but who has already blown the budget on a PCW might just be able to persuade themselves that buying a Psion organiser is a feasible way to proceed. If you're on a tight budget, don't want to carry anything too obviously a portable computer and are mainly concerned with control applications or data handling then this is an ideal buy.

Mighty atom

Second hand portables

In the pages of the computer press you will often see advertisements for portable CP/M machines. The size and weight of sewing machines they can be very good value. Usually with two disc drives and an 80 by 25 screen and around the £200 mark. Best moved by car.

tend to be a small keyboard with screen that folds over it, the PPC is a full size keyboard that folds over the rest of the machine.

The PPC is basically the same technology as the PC 1512 and like most other portables can accept an external monitor. This is quite important with the PPC as the LCD screen fitted to the machine, though good of its kind, is tiring to work with for any extended period of time.

It uses mains power where available but can run from a car cigarette lighter socket (it had to be there for something) an existing Amstrad PC monitor as supplied with the PC 1512 and PC 1640 or from its own internal batteries.

The PPC comes with a minimum 512k of memory and one 720k disc drive. The top of the range machine has two 720k disc drives 640k of ram and a modem with V21, V23 and V22 standards built in. It also comes with the Organiser software. Weighing in at just over 12lbs its actually lighter than the T1500.

Board with keys

So who does a PPC suit? The machine is not expandable internally although a hard disc drive is now available. The market Amstrad are aiming at is anyone who doesn't have the money for a Toshiba. The ideal customer is someone who already uses a PC either at work or at home and needs a fully compatible machine for use elsewhere, in fact it is seen as a possible second machine for existing users of MS-DOS machines.

The PPC seems to appeal to PCW owners quite strongly despite the fact that they have to buy new software. CP/M programs and LocoScript simply won't work on the MS-DOS machines. Of course users of programs such as SuperCalc, Protext, Masterfile and many others will find versions in the PC world with a similar feel and compatible data files.

The PPC will run any IBM compatible software that doesn't require a hard disc. This lets out a few of the heavyweight drawing packages but not much else. Since the keyboard is standard there are no new habits to learn in going from one machine to another and this is a big advantage for anyone who is actually keyboard literate. If you currently use software that makes a lot of use of control keys or the numeric keypad, or indeed any keys other than the QWERTY part of the board then changing keyboards will cripple your productivity.

None of this applies to the PCW owner who, having learnt one quirky QWERTY shouldn't have too much trouble with another.

One of the areas in which portables excel is the provision of modems. Portable manufacturers have to assume that those buying their products aren't going to be staying in one place (or they wouldn't need a portable) and that therefore communications are important. The PPC 640 series actually includes a very powerful modem as standard, which many more expensive machines fail to do, and at the price would be worth buying for the quality of modem alone. Some industry observers have gone so far as to call it a modem with a computer attached.

The PPC certainly won't look as good on the seat next to you on Concorde, on the other hand it is pleasant enough to actually work on and with a monitor attached for extended use can easily replace a traditional desktop machine. Where it wins without any trouble at all is in the pricing. A PPC can be bought without taking out a second mortgage; they range from the single drive PPC 512 to the PPC 640 which includes the modem. At the price the 640 machines with the modem is unbeatable and Amstrad are going to be selling them for a long time.

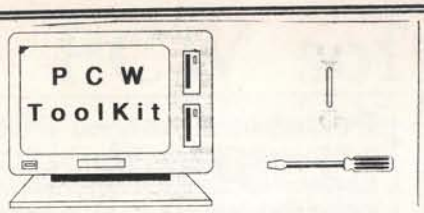
TANDY 102

£343.85 ● Radio Shack/Tandy (0922 710000)

The Tandy 102 is in many ways the grandaddy of portable computing. In the guise of the Tandy 100 it has been around for years. Designed as a general purpose portable computer it found its niche in journalism. This was largely because of the excellent keyboard Tandy built into their machine.

The display is only 40 characters wide by 8 deep and can display graphics, not just letters. Naturally the amount of text that can be seen at any one time is limited but for

Tiny Tandy, the journalist's friend



is a new product for the PCW8256 and PCW8512

It is designed to allow anyone to examine, copy and recover information from damaged or corrupted discs. Although ToolKit is a full-function disc editor, you don't need to be an expert to use it! The manual too is comprehensive but straightforward, and includes features such as a "First Aid" section for quick answers in an emergency.

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Pocket power

You've been staring into the windows of your favourite computer dealer and lusting after the latest in portable computers and promising yourself one for Christmas, but is it an all singing, all dancing portable that you actually need? (as distinct from what you want).

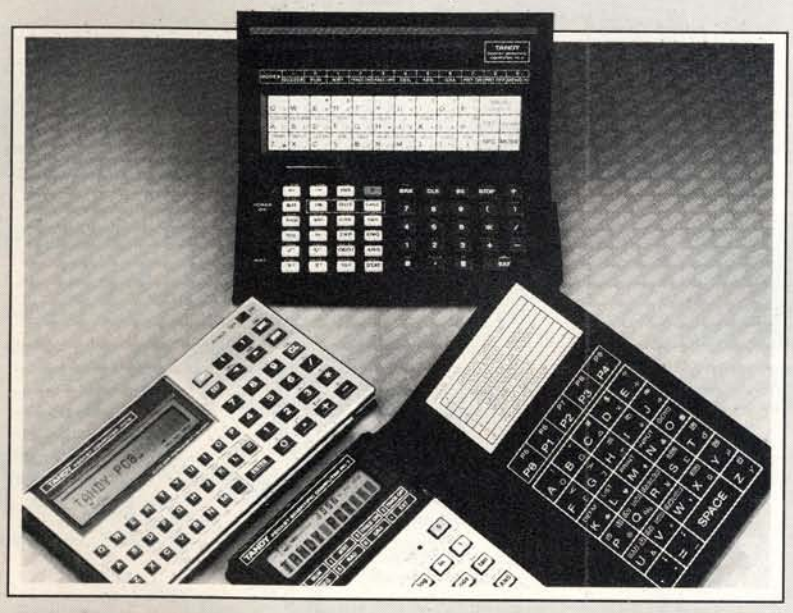
There are those who really do need to compute on the move, and for them their portable computer has to be an extension of their desktop machine. This applies to those whose time is so expensive that they aren't allowed to waste it relaxing on the train; journalists, for example.

But if you don't work with text spreadsheets and databases, if your real need is number crunching, or statistical analysis then you don't need a computer capable of processing words at all, instead you need a glorified calculator; and the fact is that some of the current generation of calculators are pretty glorious.

Most of them come with a built in programming language (usually a version of basic), a whole host of scientific , mathematical, statistical or financial functions and internal storage up to about 8K. This makes them more powerful than many of the early home machines.

This breed of supercalculator really is pocket sized and yet some of them still manage to offer a complete qwerty keypad, a numerica keypad as well as various dedicated function keys. Some of them go further and provide an LCD screen that can display graphics as well as alphanumeric characters allowing you to display the results of calculations in visual form.

This type of calculator can be found for as little as £50 although the best of them are closer to £100. The more expensive versions can usually be interfaced to some form of external storage or printer. For the engineer or scientist (not to mention the radio amateur or electronics enthusiast) this form of portable computing is probably a better buy. You gain instant access to those calculating facilities that would normally require a special program to be run on a general purpose computer.



Latest and greatest?

You know all about the Z88 from Cambridge from the current series in 8000 Plus. Probably the nearest anyone has come to the 'electronic paper' concept so far. But at £299 for the basic machine is it cheap enough, reliable enough and useful enough to become everyone's second computer?

Sir Clive Sinclair obviously thinks so but his track record in marketing is slightly suspect (*vide* the ill-fated C5 car...) The Z88 is a fairly powerful machine but quirky in its approach to text handling and interfacing. It is also far too expensive. It hasn't the Tandy's ruggedness or excellent keyboard nor the huge service organisation and reputation of the Tandy company you would expect for this price.

The Z88 is the lightest programmable computer (just over 2lbs) with a full size keyboard on the market and the display, though a compromise between legibility and window size, is better than that of most LCD screens. This is a tribute to Phillips technology rather than Cambridge, though, and you can expect more of these displays to appear on other machines. Like the Tandy this is a machine to use as a peripheral to your main computer. Time will tell if Cambridge have got it right for the mass market.

Portable Amstrad PCW

£405 - £625 ● Isenstein 0224 312986

Naturally enough a lot of PCW owners would not use a portable machine simply because it isn't a PCW. For them Isenstein have the answer. Their Odessa (reviewed in the Nov 1988 issue) is a complete PCW in a portable box.

It weighs in at 12lb, comes with a standard 8256 keyboard and can be had in single or double drive version with or without a printer. At last, true compatibility available by order.

note taking or data input this isn't really a problem. The characters are large enough to be easily read which is an important consideration with LCD screens. When the machine first appeared it wasn't a problem at all since there really wasn't anything else to compare it with.

The Tandy 102 comes with 32k of ROM (inbuilt software) and 24k of memory, a printer port, RS232 serial port, cassette interface and a phone socket. The internal autodial modem is included in the price but is a bit slow by current standards (V21 which is 300/300 baud).

Built in software includes Text, Telecom, Address, Schedule, and BASIC. These are a simple word processor, a flat file database, a diary/tickler file and an implementation of Microsoft BASIC respectively.

The whole device weighs only 3.9 lbs, is very easy to use and the large LCD display makes the text extremely easy to read. Upgrades will take the memory up to 32k (sic) and are available for £24.95. There is also a small 100k disc drive available, a bar code reader and a mains adaptor. The internal Nickel-Cadmium rechargeable batteries will keep the contents of memory intact for up to thirty days with the machine turned off thus giving you time to be rescued from Brent without losing your account of the hardships you suffered there.

Spreading the word

If you plan to go studying penguins in Tierra del Fuego, or travelling extensively in the Kalahari, then your main concern has to be reliability. If anything goes down there aren't likely to be spares at hand. In those circumstances the Tandy 102 has to be a good buy.

By current technical standards the technology is practically stone-age, but then some pundits have said the same about the PCW machines. It must be admitted that there are fundamental limits to the kind of work you would do on the Tandy 102, for instance moving large amounts of text around or performing number intensive calculations could prove slow.

Since the Tandy 102 is reasonably cheap it isn't too outrageous to treat is as a detachable peripheral for your PCW. In fact since the Tandy 102 is really an embodiment of the second approach to portable computers, electronic notepaper, this is the ideal way to regard it. There is an upmarket version of this machine called the Tandy 200 which can just about be regarded as a stand alone portable computer. It boasts a 40 column by 16 line display and a small (184k) built in disc drive. The internal memory can be expanded to 72k and a monitor can be attached to give an 80 by 25 line display. Weighing just 4.5lbs it's a nice machine but at £595 + VAT is a bit on the expensive side compared to the PPC range. A tried and trusted computer with an excellent pedigree. If you need to travel light and compute on the move without worry this is the machine to choose. Worth having a more powerful machine to come home to. ■

New PCW software from ARNOR

Word Processing

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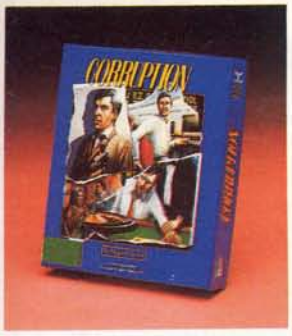
Incorruptible man of fair play Tony Flanagan looks at Rainbird's new game set in the City...

CORRUPTION

£24.95 ● Rainbird (01-240 8838) ● All PCWs



The nearest most of us get to high finance is playing Monopoly, perhaps the only game in the world where you can acquire unhealthy amounts of money yet still have trouble paying the milkman. In Corruption you find yourself in a similar position. You might enjoy playing a game in which the air screams money but it won't ultimately do anything about the holes in your pockets.

The game takes you into the heady world of stocks and shares where making money, whether by hook or by crook, is what it's all about. Not that you're corrupt or anything like that, just that there's something rotten in the state of Scott Electronics and it's up to you to find out what it is.

You begin the game with the apparently good news that you have been made a partner in the company and rewarded with a company car for your previous, and totally honest, endeavours. After all, you've kept your department healthily in the black. Still, it seems strange that your office is as bad as the last one... and why is there no phone?

It doesn't take you long to realise that something highly dubious is going on. Insider dealing perhaps? Why else would the Serious Fraud Squad be trying to get in touch with your partner? Not that he seems very worried.

Opposite Scott Electronics lies the park which is less easy to get to than it would appear. Like any road in London, to get across it you must have either very long legs or be able to fly. In Corruption, therefore, crossing the road could be one of the more reliable forms of suicide. On the other hand, it might provide a speedy route to the hospital, another of the game's many locations, where sedation has a permanency about it that is best avoided.

Pic'n'mix

Corruption contains a series of excellent graphics which, as usual in Magnetic Scrolls' adventures, can be viewed in 'dither' or 'stipple' mode. The text is very-well written and irreverently comic in tone. I particularly liked the poetic 'The sink against the north wall gurgles at inopportune moments in time with the urinal' which, as students of poetics will be aware, is redolent of Shelley at his best.

The game's interaction is particularly good as you can have a variety of fruitful 'conversations' and expect sensible replies. One of the more interesting commands is the one that enables you to specify the amount of time you want to wait, whereas the FOLLOW command means that you can keep a careful watch over what the other characters are up to.

The playguide accompanying the game is exceptionally full, providing a range of information that a stockbroker might be expected to carry – useful addresses, a day planner, a map and various notes on expenses. There is also a 'Timeoff Infofax Guide to Business Entertaining', for those for whom business and pleasure are synonymous.

Corruption is an excellent adventure game and should particularly appeal to yuppies, whizzkids and other types of obnoxiously rich people. Whether they will find time to play it is a different matter. Still, there's plenty of other people around for whom time, thankfully, is not money. ■

Unfair shares

Your secretary appears less than friendly, if not downright hostile, and totally oblivious to your usually impressive pin-stripes. Your partner's secretary, on the other hand, though empty-headed, is very attractive and their relationship clearly brings a new meaning to the word 'stenography'. He drives a Porsche while you drive a BMW, which all goes to show that in stocks and shares land, all have equity, but some have more equity than others.

Initially, you explore the two-storey building which houses Scott Electronics. Curiously, the bathroom seems to attract a range of dubious activities. Why, for example, does Rogers make frequent trips there? Is it to dispose of some highly sensitive information or does he simply have trouble with his prostate?

Before long you realise that you're being set up, that your partner and his collaborators are out to incriminate you for their corrupt activities. Consequently, the way to succeed at this game (and avoid arrest) is to investigate as discreetly as possible, trying not to upset anyone along the way.

CORRUPTION

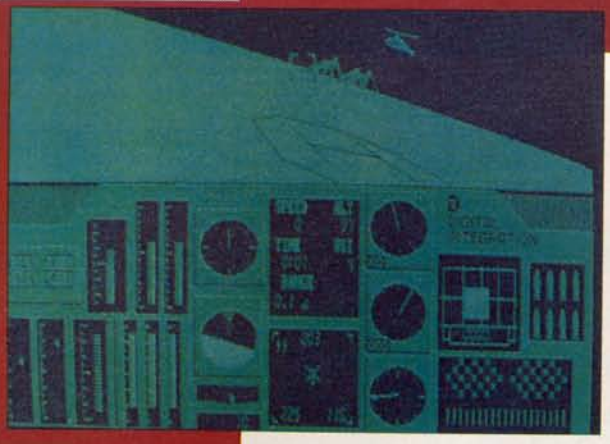
PLUSES

- ▲ Impressive graphics
- ▲ Game creates tension: will you find out about them before they get you?
- ▲ Excellent playguide: cypheric hints section

MINUSES

- ▼ It's hard being honest

ATMOSPHERE	**4/5**	**INTERACTION**	**5/5**
CHALLENGE	**4/5**	**VALUE VERDICT**	**5/5**



The Tomahawk screen simulates the view from the Apache's cockpit. In the upper half of the screen is the world outside, a bleak landscape where everything is made of old coat hangers and the mountains look like discarded models from Open University mathematics broadcasts. The lower half of the screen are a bewildering collection of dials, scales and monitors – you have to read through the manual very carefully to make sense of it all.

...and Rob Ainsley checks out two repackaged goodies for the New Year

TOMAHAWK

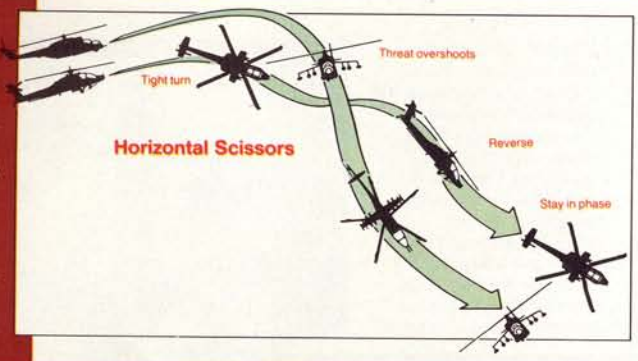
£19.95 ● Digital Integration (0276 684959) ● All PCWs

Tomahawk has been around for nearly three years now – almost as long as the PCW itself. Now, however, it works on the 9512 – at last some software companies are beginning to recognise that the newer PCW is not just a smart typewriter for small businesses; it can also be a machine for closet psychos to act out their weird fantasies and pretend to pilot an Apache helicopter shooting things down. Doubtless when some unhinged PCW owner actually does run amok with a real Apache, blasting innocent passing hot-air balloonists out of the sky, flight simulators will be held to blame.

Piloting a chopper isn't just a case of first gear, ease off the clutch and accelerate away – you have to keep tabs on your torque, the angle of your rotor blades, your altitude, your forward speed, your vertical speed, your pitch, roll and yaw, your fuel and so on. No doubt the amount of mustard in your sandwiches is critical too and a smidgeon too much of the Coarse Ground will send your Apache into a fatal dive. All this and enemy craft to intercept and shoot down too.

Tomahawk is a very good program and hasn't dated in its three year lifespan. The 9512 version will introduce a side of the PCW they never knew existed to a lot of people. If you've only ever used LocoScript and dabbled with type-in listings it'll be a new experience. ■

The leaflet with the Tomahawk package has thorough descriptions of exotic combat moves such as the horizontal scissors, the wing-over attack and the side-flare quick stop. It also tells you how to get going: don't try following your nose. That friendly beeping is not a simulated engine noise, it's your overtorque warning indicator (the sort of thing that would be useful to Robin Day when interviewing politicians).



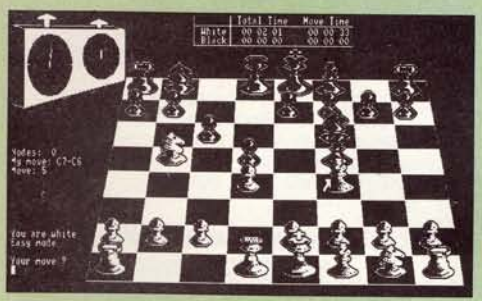
CLASSIC GAMES

£19.95 ● CP Software (0993 823463) ● All PCWs

Adventures and enemy-blatting games are not everybody's cup of strength-restoring potion. After all, PCW owners are a thoughtful bunch and many are unimpressed by make-believe worlds of castles, kings and queens; nor do they enjoy gratuitous and systematic annihilation of enemy forces. No, your average PCW owner prefers a thinking game like Chess – still plenty of castles, kings, queens and enemy forces annihilated, but at least it makes you sound clever and mature.

The idea behind Classic Games is a bit like those compilations from K-Tel and Ronco: pack a load of tried and tested hits on one disc and sell it at normal price. On this disc are CP Software's best selling 'thinking' games – Clock Chess '88, Bridge Player, Backgammon and Draughts.

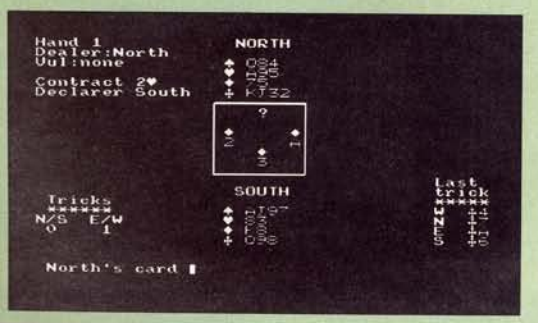
All have been reviewed in these pages before and all perform well. Classic Games is an excellent value for money package and would be great for any PCW owner, whether compulsive player of, or dabbler in, any of the games. ■

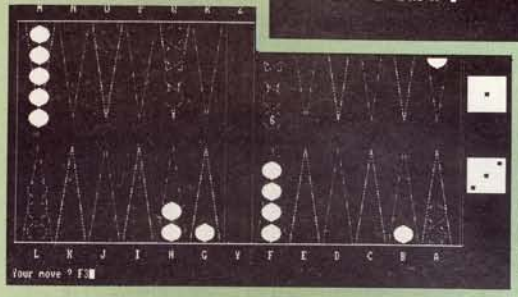


The Chess program particularly plays a very good club standard, and while the ferocious strength of its opening book isn't quite matched by the wisdom of its endgame – as with all Chess computer programs – it's still a good challenge for any Chess fan. You have a three dimensional view of a Chess board and move either by cursors plus [ENTER] or by typing in your moves algebraically. A clock records the time taken by you and the PCW and cheats mercilessly on recording its own times! You can set the aggression of the program, and play Kriegspiel, blindfold and beginner modes.

Draughts, being a simple game, is almost impossible to win when you're playing against a computer. The board view is similar to that on Clock Chess and you enter moves by typing the squares to move from and to. There are no exotic options as the Chess program offers but for draughts devotees this is another good implementation.

The Bridge section of the package, Bridge Player 2000, offers Blackwood and Stayman conventions and a number of features making it good for a beginner – example hands, post mortems of games with explanatory text detailing each opponent's moves and so on. You can rebid or replay the last game; a dangerous option, tempting you to play that last hand in every way imaginable until it really is time to go to bed.





Backgammon gives you a simple plan view of the board. As it's a mixture of skill and luck you have to trust the machine hasn't cheated when it throws itself out of trouble with a double six. The program isn't adventurous but for backgammon fans this is the only implementation of the game on the PCW and thankfully a good one.

TOMAHAWK
***8000 PLUS* VALUE VERDICT 4/5**

CLASSIC GAMES
***8000 PLUS* VALUE VERDICT 5/5**

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BOOK LOOK

Sharon Bradley gets the picture and spreads it around: New books on DTP and SuperCalc

DESKTOP PUBLISHING ON A SHOESTRING

by Ian Sinclair

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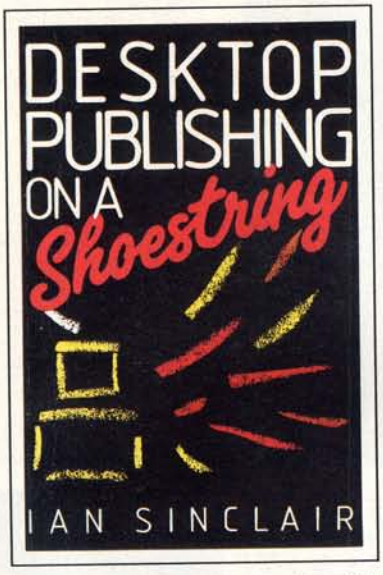
The 103rd Sinclair book (yes, one hundred and third) attempts to raise the reputation of low-cost desktop publishing. Many home computer operators use DTP programs to enhance their printed output but don't generally have the kind of funding that a fully-fledged publisher enjoys. This book was written for their benefit.

Sinclair has chosen Mirrorsoft's Fleet Street Editor as his example software because it's the only DTP program available (in slightly modified forms) for all the machines to which this book is applicable. It's also, says Sinclair, inexpensive, and a program from which you can obtain relatively ambitious effects without too much difficulty. He neglects to mention any of Fleet Street's notorious bugs, which are not confined to the PCW version.



There's a wealth of genuine, well-captioned pictures to accompany the text at all times and he also covers some of the most common snags you're likely to encounter: hyphenating long words in narrow columns, for example, to stop them automatically being sent down to the next line and thus creating gaps, and importing word-processed text. Artwork, you are advised, is also only effective when used in a restrained way. He describes the process of superimposing graphics on text as 'delightfully simple' with Fleet Street Editor. He then goes on to show how images can be turned over, merged, and inversed.

In the final chapter, Sinclair points out that the reader should, by now, be equipped to undertake any kind of DTP work using Fleet Street Editor. This is precisely the problem: whilst much of the general advice he gives is sound regardless of software, the majority of the book's content is relevant solely to users of Fleet Street Editor. In an attempt to correct some of the most common grammatical cockups to appear in DTP output, the author contemplates, at length, the role of the apostrophe and object pronoun in the English language. Unfortunately, it doesn't appear to be either the time or the place, and all he does is scratch the surface of the iceberg anyway.

Having said that, the book is an excellent read for devoted Fleet Street users and covers in detail many aspects that are cursorily dismissed in the manual. A good buy for anyone desktop publishing on a shoestring. ■

DESKTOP PUBLISHING ON A SHOESTRING
ISBN 0 632 02495
***8000 PLUS* VALUE VERDICT 3/5**

THE SUPERCALC SUPER BOOK

by Elizabeth H Lee

£12.95 ● Sigma Press (0625 531035)

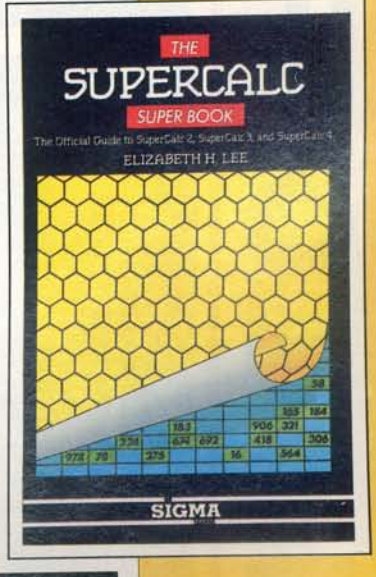
This book shows you how to get the best out of the SuperCalc family of spreadsheets. Each of the three programs (SuperCalc 2, 3 and 4) has its own slice of the market to satisfy. SuperCalc 2 (the only one available for the PCW) is ideal for small businesses requiring a classic spreadsheet without complicated maths or automation. SuperCalc 3 is better suited to medium-sized businesses needing automatic financial calculations and graphs, while SuperCalc 4, hailed as the programmer's program, has heaps more of everything.

The book devotes quite a lot of time to SuperCalc's more sophisticated features. Lee also shows how a number of pre-written formulae and macros (single computer commands that replace a whole series of instructions) can be pre-programmed into SuperCalc and later categorized into specific applications: SuperCalc 2 has 38 formulae alone, while SuperCalc 3 and 4 have 51 and 92 respectively.

Ample time is devoted to the practicalities of SuperCalc: coaxing the best in the way of illustrative material out of 3 and 4 in the form of graphs, for example – whether they be bar, stacked bar, double bar, Hi Lo, pie or area graphs. Chapter 11, on the other hand, deals with the tricky problem of printing out spreadsheets – though it's doubtful SuperCalc 2 users will find much help them.

As is often the case, the appendices at the end of the book make for interesting and useful reading. Appendix 1, for example, consists of four and a half pages of commonly encountered 'How do I ...?' type problems and explains what commands you need to use to carry out certain tasks.

The SuperCalc Super Book is a very thorough look at this particular family of spreadsheets. Unfortunately, it will be of limited relevance to PCW owners unless they also possess other larger machines; SuperCalc 2 is the only member of the family to run on the CP/M operating system, and you may well find that your specific questions (like how to print out in italic NLQ elite) are unanswered. Still, the text is accompanied by frequent, well-explained illustrations and amusing little cartoons so as to make the SuperCalc Super Book a lively and informative read. ■



THE SUPERCALC SUPERBOOK
ISBN 1 85058 080 4
***8000 PLUS* VALUE VERDICT 4/5**

Street life

Fleet Street Editor exists in versions for the BBC Micro, the Amstrad CPC 6128, and also for IBM PC and close compatibles. Other versions have different names: the PCW version is called Editor Plus and the considerably enhanced version for the Atari ST is called Fleet Street Publisher.

Slip yourself a disc

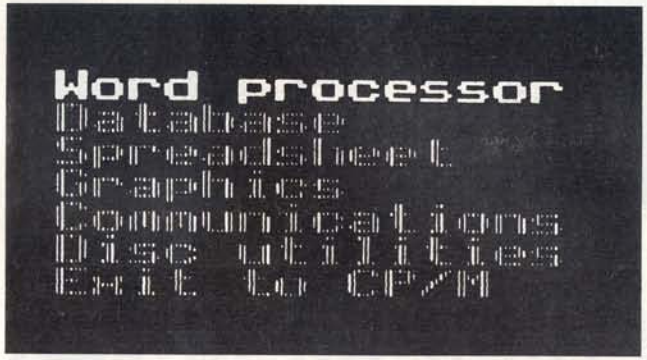
For less than six pounds (the exact price depends on the format) you can buy the accompanying SuperDisc which contains the 19 spreadsheets used as illustrations throughout the book. Most of them, however, will only run on SuperCalc 4.

MINI OFFICE WALLCHART

Common to all programs is the Disc Utilities menu. The list of files on the current disc, accessed through the Catalogue disc, Erase file and Rename file options, is the equivalent of the Disc Management Screen in LocoScript.
The Disc Utilities menu:

Selections for all menus are made either by
a) working up and down the menu with the cursor keys and then hitting the [RETURN] key or
b) by typing in [W] for word processor, [D] for database, and so on. These short cut keypresses can be displayed on the screen by pressing the [+] key (beside the space bar) and cleared with the [-] key.

The Mini Office Main Menu:



To bypass the main menu, at the CP/M A> prompt, type in either WORD or DBASE. Make sure you've got the right disc in the drive though.

The Word Processor Menu:

This wallchart is a guide to the menus and options in the word processor and database section of Mini Office Professional.

On this page are the menus of the word processor module with a few reminders of each option in each menu.

Overleaf are the menus from the database section of the package. If you hang the chart up this way, you can fold up the database section when you need it without having to remove the chart from the wall.

Embedded commands.

Embedded commands are instructions to the printer typed in along with the text. They are shown on screen as dim characters but only their effect is evident on final print out.
[SHIFT][ALT][U]: turns on underlining at the first character following the insertion of the code which appears as a dim U.
[ALT] [U] turns underlining off and appears as a dim u.
[SHIFT][ALT][B]: turns bold on and is shown by a dim B.
[ALT][B] turns bold off.
[SHIFT][ALT][I] turns on italic and [ALT][I] turns it off.
[SHIFT][ALT][R] turns on the inverse video option and [ALT][R] turns it off again.
[SHIFT][ALT][S] turns on superscript and [ALT][S] turns on subscript. Turn either off with [ALT][O].
[SHIFT][ALT][E] changes the character set to elite and [ALT][E] turns it off.
[SHIFT][ALT][C] switches to the condensed character set

The Database Menu:

The Assign Strings screen:

Going Loco

Mini Office documents from the word processor can be used directly in LocoScript. Just open up a new Loco document on the same disc and 'Insert text' ([f1] Loco 2, [f2] Loco 1) then move the cursor over the Mini Office document. Press [ENTER] and the text from it is inserted into the Loco document. you lose any layouts, tabs, bold and italic commands and so on and have to delete a few spurious characters from the top but otherwise it should be OK.

To use a LocoScript document in Mini Office, make an ASCII file of it first ([f1] Loco 2, [f7] Loco 1) in the disc manager. Then run up Mini Office and load the file directly.

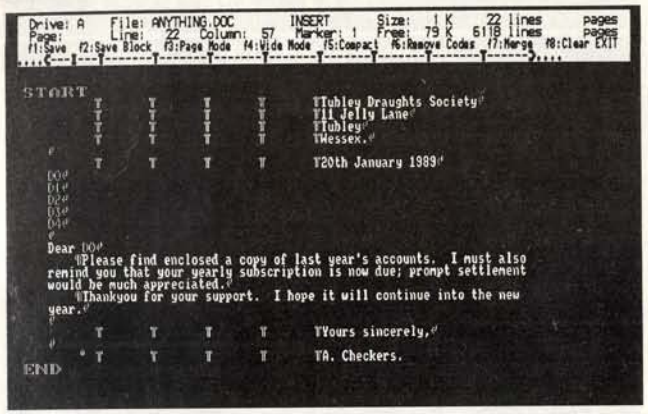
Using the database

The word processor creates files in its own format, but can rad files from the database as 'merge' files which have the suffix .MRG. This is used for mailshots, for example, to names and addresses stored in the database.

Select View Database to insert the first record into the specified format.
The Load/Save option:

There are three types of file associated with the word processor: DOC files are ordinary word processed documents; .PRX files contain printer set-up details and DBS files with database set-up particulars. The Load/Save Set Up option:

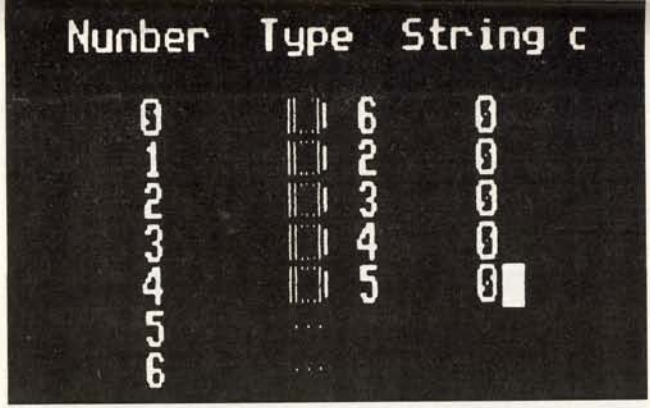
The Edit screen:



This is where you start creating your document. All the text will appear between the dim START and END markers. Pressing [f1] accepts the 'automatic save while editing ' option. Press [RETURN] at the Save menu and [EXIT] to get back into the document.

The Search and Replace Menu:

Make sure the cursor is at the beginning of your document. It will automatically be there if you load it without editing it. Enter the search string followed by the replacing text string and press [RETURN].



When creating a datafile for a mail merge, the Assign Strings and View Database options of the word processor module work in conjunction with the Alter Structure and Painting Screen of the database module. Create the pattern record with Alter Structure and then at the Assign Strings screen, tell the word processor where to look in the datafile for the match to the mail merge code in the standard letter. The relevant data is found in the appropriate record field.

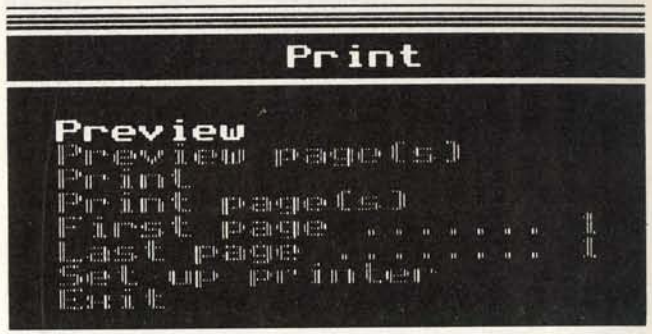
The View Database Option.:

Shortcuts

1) [SHIFT] plus left or right-arrow key moves the cursor by one word in the appropriate direction.
2) [EXTRA] plus left or right-arrow key takes the cursor to the beginning or end of the current line.
3) [SHIFT][ALT] plus left or right-arrow key will 'pan' the screen to the left or right. The amount by which the text will 'roll' depends on the pan value set. The default is 32.
4) [EXTRA] plus the up or down-arrow key takes the cursor to the start or end of the document.
5) [SHIFT] plus up or down-arrow key will move the cursor to the beginning or end of the current paragraph.
6) To jump up or down by one screenful of text, press [ALT]

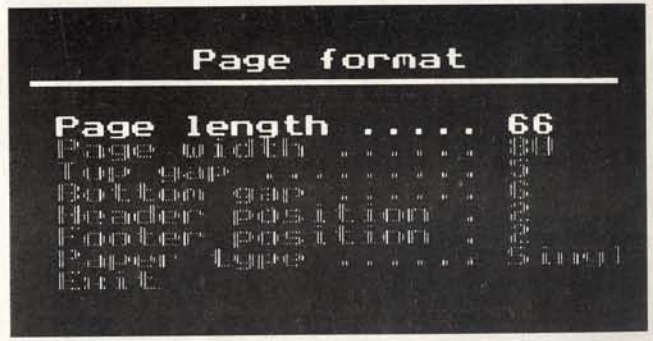
lets you save or load either one or both of the last two types of files according to the specifications already decided on. The other options are concerned exclusively with text document file management.

The Print menu:



Once you've finished writing your text, the Preview options allow you to see what it looks like before print out. You then print out the document using the parameters decided on in the Set up Printer option.

Page Format (in Set-Up Printer):



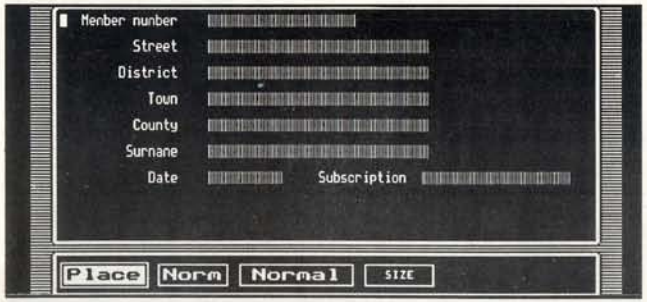
The Default Settings Menu:

In default settings, standard values are easily altered by toggling and cycling through options. For example, the page number type can be Normal, Decimal, Lower Roman or Upper Roman.

Create a database file via Select structure (Database Main Menu):

A datafile in the making: deciding on how many fields and how to arrange them. Use this 'painting screen' to decide location and length of data fields:
The Alter Structure Menu

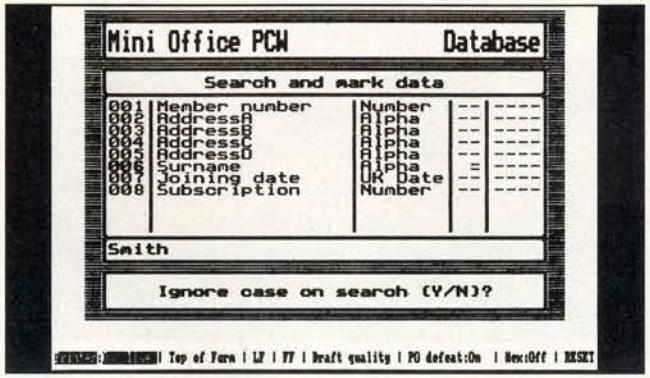
The Painting screen.



Database files are saved either as .DBS files or .MRG files (for later merging with the word processor). Data fields (eg. name or address) are assigned to the embedded codes in the mail merge document (eg. D0 and D3) through Assign Strings in the word processor menu. Then Load/Save Set Up to save having to reassign them next time.
The Load/Save Set up Option.

Data in a field can be sorted in ascending or descending order
The Sort Data Menu.

Define the Search Data (eg. the surname Smith) and specify the relationship between the record and the data (here, Surname).
The Search and Mark option.



Simple calculations can be done on numeric fields within a particular record via formulae fields. The Calculations menu, however, can apply a calculation to the

whole database or only to certain (marked) records. To calculate the intake from all the subscriptions within each record, for example, select Total All Records.

The Edit and Print Reports/Labels options control the physical format of the paper on which reports or labels will be printed.
The Print Data Menu.

When the physical dimensions for the stationery are set, select the first Edit Report/Label option and start creating the labels.
The Edit Report/Label screen.

The Label Painting screen works like the painting screen to lay out the fields in a datafile record. The rectangle in the middle represents the label eg. for names and addresses. Each field is entered by placing the cursor, pressing [PASTE] and the number of the field. [EXIT] and Print Report/Labels.
The Label Painting screen.

The Print Label Menu

MARKETING PROGRAM

Part two of the series on writing and selling programs: Steve Patient considers selling the goods

In these days of cut-throat competition for any spare cash you might have left over after paying the mortgage and feeding the cat, it isn't enough to build a better mousetrap and wait for a grateful nation to beat a path to your door. You have to get out and sell.

You have a wonderful, original and simple idea for a new software package, an ace game, or even a LocoScript utility, but then what? Before anything else you need to decide whether or not the idea really is as good as it seems. This is Market Research and will give you some idea of just how saleable your proposed product is, and remember, once you start trying to sell your idea it is exactly that, another product vying for space in the market.

You may be able to judge demand fairly accurately if you have plenty of previous experience in either selling software or in the field the product is aimed at but that doesn't always apply. A better approach is to read the advertisements in the relevant publications and see how many are competing in the same market. Perusing the shelves of retailers likely to be interested in servicing the market you are aiming at is also a worthwhile activity.

A big, busy, market always has room for one more product (houses, for example) whereas in a smaller, more specialist sphere (say LocoScript guides) your product will have to be much better that those already there if it hopes to make an impression.

If the mousetrap your prospective customers already have catches mice you need to think how they can be persuaded to switch to yours, and remember, unlike mousetraps, software doesn't wear out. Of course, your product may be so innovative that it actually creates a new market (VisiCalc, which appeared a decade ago, virtually created the spreadsheet concept and consequently a new market).

With a specialist product it might be necessary to mailshot possible customers to find out if they're interested. This can take a great deal of time in research and a lot of money in postage but it could be cheaper than moving into production blind and selling nothing.

Richard and David Darling made a fortune writing and marketing their own programs for the CPC. Could you do the same for the PCW?

Going in at the deep end

If the results of your market research seem encouraging and you're a programmer the next step is to write the program, if not then you must get it written. Let's assume that part of the creative process is successful and you've now got the program sitting on the desk in front of you, working and debugged.

Now you've decided to actually try and enter the market but you still have another major decision to make before you can sell anything. Will you sell to your customers directly by mail order or through distributors? Sometimes you can do both but generally this means a bigger organisation and therefore larger startup costs.

This is an important decision and affects everything else you do. To put it at its simplest a distributor gives you immediate access to perhaps several hundred retail outlets each presumably packed to the gunwales with dedicated salesman who will thrust your product into the eager waiting hands of everyone who needs it. You gain the salesforce, the credibility of a dedicated retail outlet and shelf space. In some ways these advantages are above price. If your product is a game or a sophisticated package that needs either demonstration or explanation then this is really an essential route to take.

If you decide to go via distributors then the first hurdle is going to be selling the product to the distributor, after all, they don't want to be caught with stock they can't shift. Selling to a distributor means a finished product, a

Sales technique

Brian Worts of Thurston Techniques came to computer software via word processing training. His path from employee to entrepreneur was more accident than design. After some months spent teaching LocoScript to new owners of the PCW 8256 he'd accumulated so much training material that it began to look like a saleable product. "I approached Minerva with the idea of selling my material as a self teaching course, and they bought it. That became Typerite and Lernloco," he explained.

His skill with LocoScript prompted many people to ask him for specialised templates and this time, when they had mounted up enough, he decided to market the templates himself. Thus began the Tempdisc series of ready-made Loco templates for business and leisure users. Worts' business is now full time. "I tend to go very carefully with new products, keeping out of debt and doing one thing at a time," he says.

convincing amount of market research, an advertising budget and good packaging; very good packaging. Get a properly printed label and pack: it costs pence but looks much more professional.

Boxing clever

If a manual is necessary then it should be professionally written and properly typeset; the book of the program. This applies especially to a complex package. It takes a long time to build up a good reputation but no time at all to get a bad one for being difficult to use because of a poor manual (or having too many bugs). Cutting corners by putting the manual on disc is cheating and nobody likes the result.

The next consideration is the bigger box all this goes into. In general a rigid cardboard or plastic box is necessary. It might be possible to include the disc in the documentation provided you've gone for a rigid ring binder.

The line between an attractive package that draws the eye and a garish package that looks as if its trying to prove something is a fine one. The cost of proper design can be made back in the course of few day's sales; the cost of poor design can be bankruptcy. Software, perhaps more than most products, depends for success on how it is perceived by the buyer.

The cost of designing the total package can be surprisingly high. A professional agency fee might well run into thousands of pounds. Fortunately there are any number of freelance designers eager to try their skills for more reasonable fees – try the Yellow Pages. You need to see some of the work they've already done to decide whether or not their ideas are right for you.

Mail order

Mail order is the traditonal route into sales for computer software. Many of the most succesful companies started in this way. The advantages are a low initial outlay and being able to work in your spare time. As you will generally be dealing by post it doesn't matter that there is nobody on the end of the phone most of the time.

Post dated cheques

The unit cost of the package, how much each costs to produce once the final design is agreed, depends on too many factors to itemise. For a game with no manual and no separate box it might be as low as £2 to £3, including the disc copying, for small runs of 500 or so. A package with a manual and perhaps other inserts, a full colour box and contoured internal packing would obviously cost a lot more, perhaps £5 to £15, more if your manual needs special illustrations.

So what about mail order? This suits the smaller supplier with a product aimed at a specialist market. You aren't looking for an impulse buyer or credibility with corporate purchasing departments. You probably aren't looking for very large volume sales either (though you can always hope it will turn out otherwise).

How small can you start? The minimum requirement is a box of discs, a program and an advertisement in the computer press. The last item is important. If you don't advertise then no-one is going to know you have anything to sell. In the case of somebody just starting out the advertising is always going to be the largest single ongoing expense.

Is there anybody there?

Advertising rates depend almost entirely on circulation figures. This means that some magazines are a lot cheaper to advertise in than others. However, if the information fails to reach the market then the real cost may be a lot higher than it appears in terms of lost sales. The answer here is to check circulation figures and work it out in terms of pennies per person reached. Check the 'ABC' figure – it should be in the magazine. If it doesn't have one you have only the advertising salesperson's word for the figures they quote you!

Your advertisement should look professional since it is all your customers will know about you. Don't prepare the artwork yourself, and certainly not on your PCW; most advertising media offer free or cheap typesetting rates. If you are investing a lot, get the help of a local advertising agency in the Yellow Pages.

The other problem for the mail order supplier lies in the persistence of memory. Unless they have some particular reason to remember a thing most people don't, their memories are short. You need to keep your product in the minds of prospective customers, and this means in front of their eyes. For the mail order supplier the only way is constant advertisement. This is likely to be the largest drain on the fledgeling company resources.

So how successful are you going to be? As in all business you will need good luck, a lot of persistence and some luck. If your product is a game then you need a constant supply of them since the product life is relatively short. You can make a lot of money but more games companies go broke than make millions.

If you are selling utilities and they're good then market penetration will be slow but steady. With good backup (mail order customers always come direct to you with their problems) and persistence you can make a steady income but don't order the Porsche until the money is all in.

If you are selling applications software then life is uncertain. It almost certainly cost a lot to develop and a number of people will be involved. The right product can sell for a long time and to a lot of people. The wrong one can go down with all hands.

Nowhere is market research more important. A product that people will use every day for the life of their machine has to be right, has to be seen to be right and has to be marketed well. It really is an area for professionals and if you aren't one then you need to either become one or hire one since you're in the big league now. ■

Thinking small

Bradway Software is a small company run on a part time basis selling utility software. "We started about four years ago selling for the Spectrum computer," said the man behind it all Richard Bradway. "It grew out of enthusiasm. We wanted to provide facilities that the Spectrum lacked, like a screen dump." Bradway writes all the software in Turbo Pascal for easy conversion to other machines.

He keeps overheads low by doing all the copying on their own machines in small batches as needed. Printed inlays are done in lots of about 500 leaving only the advertising as a major up-front expense.

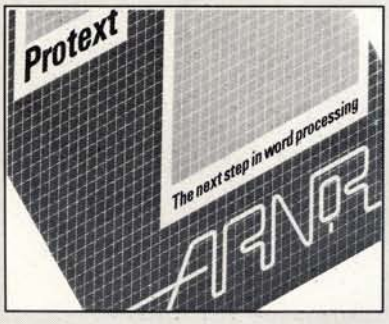
"The business takes up evenings and weekends. It pays for a good annual holiday, but if I thought of it in pounds per hour I'd give up tomorrow!" says Richard. This sort of business really has to be looked at as a self financing hobby. The risks are neglible, the financial rewards slight but the satisfaction great.

Maxamising profits

Arnor are well known now in PCW circles for their excellent word processor, Protext. The company began only four years ago in a bedroom in Croydon with the Maxam assembler for the CPC 464, written by Gavin Every and Mark Tilley. Protext on the CPC grew out of the text editor included with Maxam. It proved successful for the CPC and soon made the transition to the PCW; Arnor are now an established full-time 'smallish' software company, based in Peterborough.

Protext is now available on the PC and Atari and, in the new year, on the Amiga. Arnor recently went international with a German version of Protext called Prowort.

They choose to market their products both by mail order and through retail sales. Retail sales produces the larger turnover but the mail order provides greater profit per unit. Their success in the mail order field and the professional presentation of their products has led to the successful retail marketing of their software.



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The BASIC on the Z88 is a variant of BBC BASIC, a bit different to the Mallard dialect you have on your PCW. The Z88 has no 'while' command, for example; you can't EDIT individual lines as per Mallard, you just type them in again; you have to type words like PRINT and LIST in upper case; but on the plus side it has a couple of features Mallard doesn't, like a variable TIME which you can use as a timer.

Perhaps most important, the Z88 has virtually no equivalent of those escape codes so beloved of Mallard users – you know, things like `PRINT CHR$(27)+"Q"+CHR$"F"+CHR$(2615)+CHR$(-7)+";"` and so on to create windows on the screen or reverse out characters. So any program with those in must have them edited out, possibly adapted, before piping them across to the Z88.

Bridge that Jap

Consider an example. You've written a simple routine on the PCW to test your knowledge of Japanese, which you're learning, and think it would be nice to have this on your Z88 for the plane trip to Tokyo. Suppose the listing is something like this:

```
10 READ q$:READ rightans$
20 PRINT "What is the Japanese for ";q$
30 INPUT ans$
40 IF ans$="q" THEN GOTO 70
50 IF ans$=rightans$ THEN PRINT "Correct" :
GOTO 10
60 PRINT "Wrong! Correct answer is ";rightans$ :
GOTO 10
70 STOP
100 DATA hello,konnichi wa,see you,jaa mata,
thanks,arigatoh
110 DATA big,ohkii,little,chiisai ...and so on.
```

This will work with no modification on the Z88! The thing to do is save it as ASCII (ie. `SAVE "JAPTEST.BAS",A` in BASIC) and then transfer it as you would a normal text document.

You can't run JAPTEST.BAS on the Z88 direct from BASIC on the Z88, however. If you try LOADing it in BASIC you get 'Bad program', not a comment on the quality of it but a sign that it's unreadable in its present form.

So, in PipeDream, load the file JAPTEST.BAS as 'plain text' and add at the beginning three lines (add three lines at the start with [DIAMOND]N three times):

```
#B
.J
NEW
```

the significance being as follows. You're going to 'execute' this file, which means you tell the Z88 to treat everything in the file as if a phantom typist were keying its contents in for you. The #B represents [SQUARE]B – the command to enter BASIC – the .J means 'take everything form here at face value, there are no funny codes' and NEW clears out any program already in BASIC, just as on the PCW.

Save the file JAPTEST.BAS with the extra lines as 'plain text' and execute it as follows: press [SQUARE]F for the filer, move the cursor down to 'execute' and press [RETURN]. Give the name of the file as JAPTEST.BAS. You go into BASIC automatically, clear out the old program, and see the lines of the program being typed in for you – if the listing is long this takes a while!

One who knows, runs

Now you can RUN the program as per any BASIC. From here you can add lines (DATA lines for example) on the Z88, save it, and generally treat it as a normal Z88 BASIC listing from now on.

What if you make amendments to the listing – say you add data on your Japanese trip – and then want to transfer it back to your PCW? The reverse procedure throws up more problems. You can't edit a Z88 BASIC listing in PipeDream directly – as the Z88 BASIC can't EDIT lines like Mallard, this is very annoying!

The equivalent of Mallard's 'save as ASCII' is as follows. In Z88 BASIC, at the > prompt, type `LIST`[SQUARE][+]`S`[ENTER] and when the listing has finished type [SQUARE][-]`S`. This creates a file called S.sgn on RAM drive '-' which contains the text of the listing.

Enter PipeDream as usual and load this file ([DIAMOND]FL giving the name of file to load as `:RAM.-/S.sgn`) as 'plain text'. You can then edit it as usual with PipeDream (deleting the line of garbage at the end) and get the amended listing typed back into BASIC for you by execute's phantom typist as above. Or of course you can send the PipeDreamed BASIC listing across to your PCW and when in BASIC over there just load it as usual.

```
PIPEDREAM A1
BLOCKS          ..........A..........B..........C.....
CURSOR          1 #B
EDIT            2 .J
FILES           3 NEW
LAYOUT          4 10 READ q$:READ rightans$
OPTIONS         5 20 PRINT "What is the Japanese for ";q$
PRINT           6 30 INPUT ans$
```

Making that Pipedream file into a BASIC listing – now it must be executed

```
PIPEDREAM A1
BLOCKS
CURSOR          1 ........ Name of file to load          :RAM.-/S.sgn
EDIT                       Insert at slot                No
FILES                      Limit to range of rows   No
LAYOUT                     Load as plain text       Yes
OPTIONS
PRINT
```

Loading your BASIC listing, temporarily stored as the file S.sgn, into Pipedream

The same difference

These are some commands you must beware of in a Mallard BASIC listing if you're going to transfer it to the Z88.

Some things are the same – the ASCII character set to 127 for example is the same, so CHR$(97) is "a" in both versions, and ASC("]") is 93 on both. READ and DATA work in the same way too.

Complicated stuff like conversion of PRINT USING statements and file handling (OPEN "O",1,file$ and PRINT #2,a$ and the like) is best resolved by reading the Z88 manual.

PRINT CHR$(27)+...

None of these will work on the Z88. Replace screen positioning (...+"Y"+...) and window commands (...+"X"+...) by the TAB function (PRINT TAB(X,Y) prints the text which follows at X across and Y down on the Z88 screen).
Clearing the screen is just CLS in Z88 BASIC, so replace PRINT CHR$(27)+"E"+CHR$(27)+"H" by CLS.
All other codes you may as well ignore apart from a couple of 'standards' eg. PRINT CHR$(7) is a beep in Z88 BASIC as well as Mallard, PRINT CHR$(13) is a return, PRINT CHR$(8) is a backspace etc.

LPRINT...

Obviously all of these are right out, not having a PCW printer which can be attached to the Z88.

WHILE...WEND

Sorry, not in Z88 BASIC. Use IF...THEN...ELSE or REPEAT...UNTIL eg:

```
10 WHILE x<10 : x=x+inc : WEND
```
becomes
```
10 IF x<10 THEN x=x+inc : GOTO 10
```
or
```
10 REPEAT x=x+inc UNTIL x>=(10+inc)
```

```
>RUN
What is the Japanese for hello
? konnichi wa
Correct
What is the Japanese for see you
? jaa mata
```

That BASIC listing worked on the Z88

PEEK, POKE

No way. The Z88's memory is organised differently to the PCW's so you can't tinker with it in the same way. If a listing depends on these commands to work it just won't go on a Z88, however...

Times

...if the PEEKs and POKEs are only for the purposes of recording times you can get round them by using the Z88's TIME command which records times in hundredths of a second. This means a bit of rewriting. For example

```
10 TIME=0
20 REPEAT UNTIL TIME=500
30 PRINT "You have just aged five seconds"
```

sets the timer to zero, repeats nothing (ie. waits) until it has clocked up 500 ticks (ie. 5 seconds) and then continues with the program.

INKEY$

Needs a figure after it in Z88 BASIC telling it how many hundredths of a second to wait:

```
10 k$=""
20 IF k$="" THEN k$=INKEY$(0) : GOTO 20
30 PRINT "You pressed ";k$
```

Waits for you to press a key then prints the key you pressed. Note IF...THEN instead of WHILE...WEND. INKEY is similar but works with ASCII values.
An alternative command to use is REPEAT with GET (which stores the ASCII number of the last character pressed):

```
10 REPEAT UNTIL GET=13
20 (continues...)
```

makes the program pause until you press [ENTER], whose ASCII value is 13. The command REPEAT UNTIL GET=121 would wait for you to press 'y' similarly (not 'Y' or anything else). GET$ is similar but works with characters.

How it's all done

A brief résumé of how to transfer text files. This assumes you have already connected your PCW to the Z88 via an RS 232 interface on the back of your PCW and a suitable cable, of course!

Z88-PCW

1. Save your document on the Z88 as plain text (Yes to bottom option on 'save' menu) as say THING.DOC
2. On the PCW enter CP/M and at the A> type `SETSIO XON ON`[RETURN]. Insert a disc with PIP on it.
3. Now type `PIP`[RETURN]. Insert your disc to hold the transferred file and at the asterisk type `THING.DOC=AUX:` and don't press [RETURN] (you can have a different name to the one on the Z88 but it's easiest to keep them the same)
4. On the Z88 enter the transfer mode with [SQUARE]X
5. Then type S[RETURN] for 'send file'.
6. Give the name THING.DOC and press [RETURN] on both machines.
7. Figures should appear on the Z88. When they stop, enter the terminal with [SQUARE]V
8. Press [DIAMOND]Z to end the sending process.
9. On the PCW the asterisk prompt should reappear. [STOP] to return to CP/M.
10. Typing `DIR` should confirm that THING.DOC is now on the disc in the PCW's A drive.
11. (LocoScript users) Start up LocoScript. Insert the disc with THING.DOC and create a new file. In it 'Insert text' ([f1] Loco 2, [f7] Loco 1) cursor over THING.DOC on the disc manager then press [ENTER].
12. Replace all occurrences of (space)[RETURN] by (space) in the transferred document.

PCW to Z88

0. Make a file END consisting of [EXIT]E. To do this, run CP/M and at the A> prompt type `PIP`. Insert the disc which will hold your PCW documents and type `END=CON:`[RETURN]. Press [EXIT] then the 'E' key; finishi with [ALT]Z. You only need make this file once.
1. Save your PCW document as plain text. (In LocoScript this means making an ASCII file, [f1] Loco 2 [f7] Loco 1). Say the name is THING.DOC.
2. On the Z88 enter the transfer mode with [SQUARE]X. Type R[RETURN] for 'receive file' and give the name THING.DOC (or anything you like, but it's easiest to keep it the same as the one on the PCW). Don't press [RETURN] yet.
3. On the PCW run up CP/M and at the A> prompt type `SETSIO XON ON`[RETURN].
4. Type `PIP`[RETURN].
5. At the asterisk insert the THING.DOC disc ; type `AUX:=THING.DOC`; press [RETURN] on both machines.
6. Figures should whirr on the Z88. When they stop type on the PCW `AUX:=END`[RETURN].
7. The Z88 should beep to show it's finished.
8. [SQUARE]P enters PipeDream [DIAMOND]FS loads the file. Give the name THING.DOC and specify Yes for 'plain text' (bottom option).

Troubleshooting

- If nothing happens when you press [DIAMOND]Z (or send END across) check the connections and try again (you may have to reset and start from scratch!).
- If nothing happens repeatedly your cable might not be wired correctly – your local computer shop can check it for you. Take page 189 of your Z88 manual along .
- If the file has only part transferred, check you typed SETSIO XON ON and try again.
- If the file is gibberish when you insert it into the LocoScript documents, check you saved it as plain text on the Z88 and start again.
- Saving your Z88 file as plain text can have odd consequences if you don't load it into PipeDream again as plain text. It will appear in one single column with all tabs replaced by reversed out Is. Loading it in as plain text rectifies this.
- £ signs come across to the PCW as 'BA3' into your PCW document; change all 'BA3' to '£' using [EXCH]. There is some gibberish at the beginning of your transferred file on the PCW which can be deleted.

If you find this all too much, C Port (01 376 8038).do a Z88-PCW transfer utility – by typing IMPEXP and following the prompts the above is done for you. For £24.95 you get the software, manual and the necessary cables (£15 or so by themselves).

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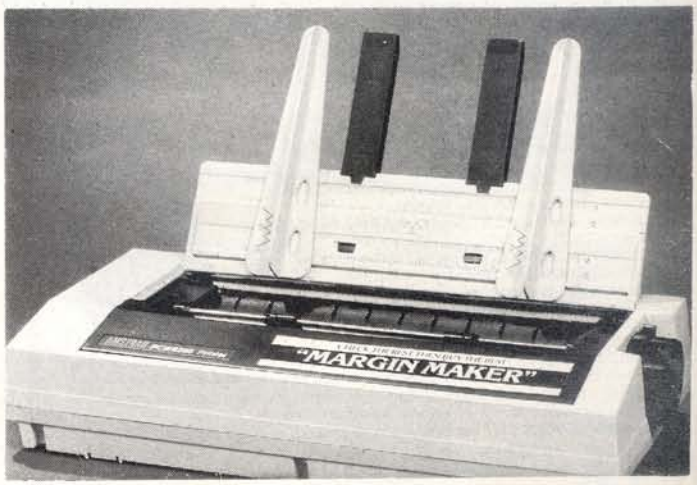

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PUBLIC ACCOLADES

LANGFORD

A page in the company of author and PCW pundit David Langford

It's coming up to the time of year when some big mainframe computers get together and announce their intention of sending me wads of Government money. This is no empty promise: in February, for the sixth year in succession, I'll get a cheque for a few hundred quid. The payment and the amount don't even depend on my knowing dreadful and unsavoury secrets about cabinet ministers. In effect, it's democratically awarded by the great British public (you), and I shall be grateful all the way to the bank.

If you've ever published a book you are probably nodding your head wisely and murmuring "Public Lending Right". If you've published books but don't know this phrase, you're almost certainly missing out and should read on – likewise if you merely *hope* to get published one day.

What PLR is

PLR is a pleasant attempt at giving a fair deal to authors whose masterworks are borrowed a lot in UK libraries. Say you've written a novel retailing at £10 and get £1 royalty every time someone buys and reads a copy. (If you're a jaded, cynical author, you may not mind staying unread so long as the book gets bought....)

When the buyer is a public library, hordes of people will read the book, but the return to the author used to be the same: one 10% royalty fee only. Can't the author be rewarded a bit – that is, paid for public lending right as he or she might be for translation or film rights? For a long time there were arguments about charging a penny a loan and passing the revenue to authors: this would have been hellish to administrate in pre-computer days, and all the librarians were naturally dead against it.

The difficulties of introducing the PLR idea were compounded by the sort of conservatism which resisted other changes, like allowing women to vote. Authors have long been regarded as scum, and copyright protection is unique in law as being biodegradable: if you build a house it can be inherited by your descendants for decades or centuries, but if you write a book which still sells 50 years after your death, it goes into the public domain – anyone can reprint it, issue an edited version, etc.

How PLR works

Now that so many libraries are computerized, the big PLR computer in Stockton-on-Tees merely has to gross up the borrowings recorded by twenty sample libraries: this produces an estimate of how many times each book by each PLR-registered author has been borrowed in the given year. I was cheered in 1988 to find that my own first book (published 1979) was reckoned to have had more than 3000 readers over the previous year.

Yes, all the authors in the scheme get statements detailing the statistics for every edition of every book: it makes for morbidly compulsive reading.

PLR funding comes from a big lump of Government money somewhat arbitrarily allotted by the Minister for the Arts. After deducting running costs (for the computer and its acolytes), the remaining loot is divided up amongst the authors: the 1988 dividend was an exciting 1.12p per estimated loan. It would be less, but in order to weight PLR distribution towards starving as opposed to ultra-popular authors, no one is allowed to rake off more than £5000.

The PLR office is an oddly friendly department of the Civil Service: they actually answer queries in plain English and give unstuffy advice. What, I asked, do I do about this book I wrote with a pal who isn't eligible because he's American? The reply: get him to waive the share of PLR which he can't claim anyway, apply for 100% of PLR income on the book, and slip your friend whatever percentage of this amount your conscience tells you.

Along with your PLR statement for the year, you get a fascinating leaflet of arcane statistics. Last time we were told that 57 authors had achieved the top whack of £5000, that 49% of those registered got less than £1000, and that the whole distribution was based on an estimated 639 million library loans grossed up from an actual sample of 7.6 million, only 235 million of the total loans being of books actually registered for PLR....

I need hardly mention that there are statistical checks designed to ensure that the estimated loans aren't boosted over-much by your entire family taking out all your books six times a week.

How to join in the fun

So how do you climb aboard? If you've published a book, and your name (or a pseudonym which is all your own) appears on the title page in company with not too many co-authors (books with four or more authors are ineligible on grounds of Too Much Work All Round), it's probably worth registering. I remember the anguished and envious groans on that very first PLR dividend day in 1984, from those who hadn't registered because "obviously" the scheme would never bring them a penny. Oh yes – as well as all the above you must live in the UK and not be dead.

Registration itself is pretty simple; it used to be more tortuous, but the system has been fine-tuned since the early days. Basically, in the great tradition of our Civil Service, you fill in a form. All the information can be had from the Public Lending Right Office, Bayheath House, Prince Regent Street, Stockton-on-Tees, Cleveland, TS18 1DF.

Being a fairly obscure author myself, I'm still boggled by the fact that PLR brings me a little bonus each year, and also by the nuggets of accompanying information – like the fact that one book that never made me much in royalties is my most popular in libraries, with uncounted thousands of loans. I owe it all to you lot. And to the computers. ■

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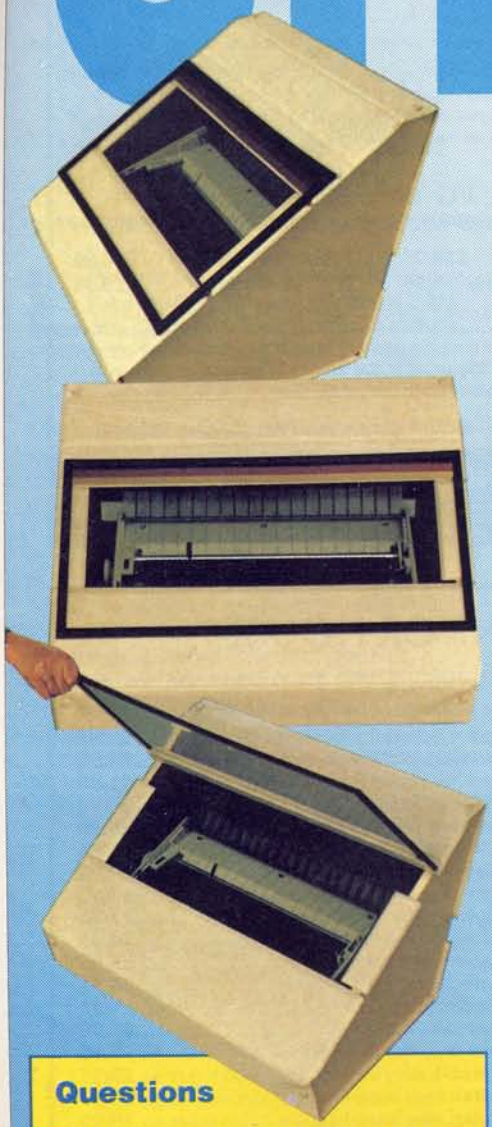
COMPETITION

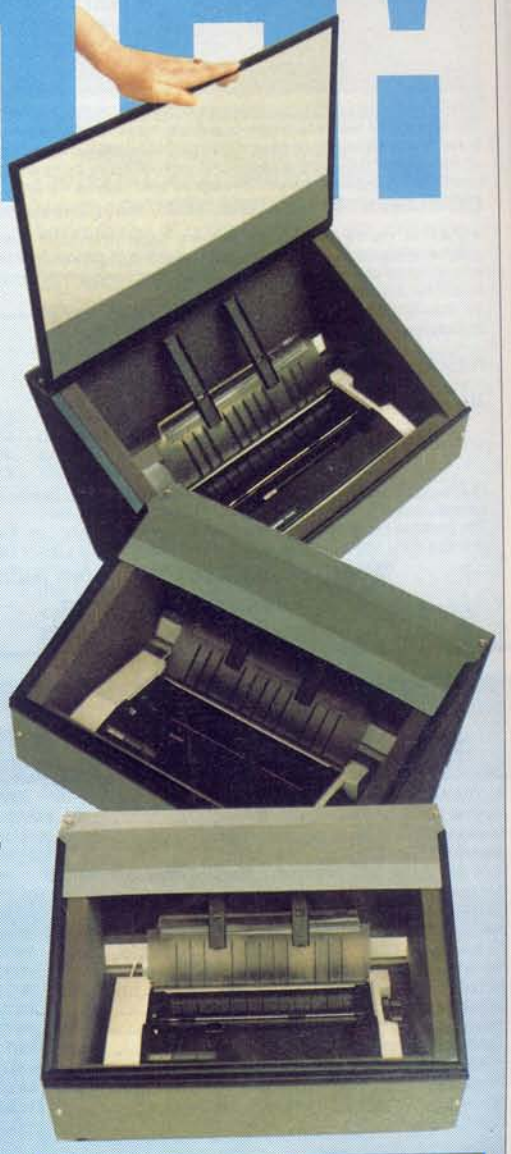
SHH!

There are various kinds of Chinese torture employed by the PCW to make you give up word processing (yes, we know it's actually made in South Korea). The most obvious tactic is for it to beep inexplicably and refuse to do something. Then as soon as you get a friend round to show them, it all works fine. But there are plenty of other tricks where that came from.

For example, there's the noise produced by the PCW printer. You may have thought having the builders in was bad, but that's nothing compared to the clatter produced by a 9512 printer hacking through a few letters. You can't even hear people shouting at you that the printer's very noisy. What you could do with is one of those printer hoods to muffle the sound.

And what about those times when someone catches their foot on the power cable and unplugs your PCW just as you were about to save four hours' work? Any sensible machine would have some sort of safeguard against this.





A hood and a backpack

8000 Plus is offering three first prizes of printer hoods and three second prizes of battery backpacks to the winners of our New Year competition. Both products are made by Isenstein, who supply a range of add-ons for the PCW (including replacement parts such as keyboards and printers for when you throw your deafening daisywheel out the window in frustration).

The printer hoods are available for any PCW printers (state which machine you have) and cut down the clatter so you *can* hear people telling you that the printer's very noisy. The battery backpacks fit into the expansion slot at the back of the machine. If the power is cut off they will save the state of the memory, so when you switch back on your data is still there. They have a 'piggy-back' slot on them enabling you to plug any mouse or RS232 interfaces on top of them.

To win one of these all you have to do is answer the six general knowledge questions below on the subject of noise. Put your answers on a postcard or sealed empty envelope with your name, address and model of PCW and send it to: *Noise Competition, 8000 Plus, 4 Queen St, Bath BA1 1EJ.* The first three correct entries picked out of the paper recycling box on February 6th win the printer hoods, the next three the battery backups (though you can specify one or other of the prizes if you wish). The winners will be announced in the March issue of 8000 Plus.

Questions

1. According to Norse mythology, Baldur had a sense of hearing so keen he could hear which of the following?
a) Address marks falling off a corrupted disc
b) Wool growing on the backs of sheep
c) Someone touch typing on a Z88 keyboard

2. Which of the following could be heard 2,968 miles away?
a) The eruption of Krakatoa
b) The 9512 printer
c) Stockbrokers talking in a wine bar

3. Thomas More was executed for refusing to say anything. What was his position?
a) Head of Amstrad's PR
b) President of the USA during Watergate
c) Lord Chancellor to Henry VIII

4. Which of the following languages is said to be impossible to whisper because of its system of tones?
a) American English
b) Chinese
c) Italian

5. Which of the following cannot actually hear anything you say?
a) Snakes
b) Amstrad's Technical Support Service
c) Anyone playing 'Tetris'

6. What did Beethoven and Smetana have in common?
a) Both were major composers, except for Smetana
b) Both wrote songs for Kylie Minogue
c) They both went deaf

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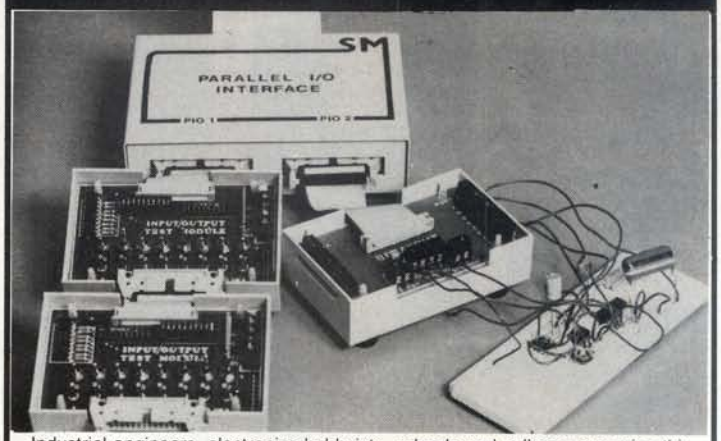

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LISTINGS

Teach your old PCW new tricks with three unbelievably useful utilities!

SCREENSAVE
by Lawrence Simons

Lawrence Simons' plot routine (printed in the August 1988 issue) created a great deal of interest, adding as it did a much needed plot command to BASIC. He has now completed the process by writing a program to save those wonderful screens you've all been busy creating to disc. By including these lines in your own BASIC programs you will add the facility to save and load screens within that program using CALL appropriately.

Once saved the screens can be loaded back in again from disc at any time. Since images can be extremely time consuming to generate in BASIC, being able to create them, save them and load them back in again when required will allow programs to do tricks with graphics previously impossible due to the time taken to draw screens. 'Help' screens and opening titles to a program are obvious applications.

The screensave program will run just as it is. It will ask if you want to Save or Load (S/L) a screen then prompt you for a filename at the current cursor position and either save or load a screen as asked. If there is no file of that name then the load will fail so save one first.

The program is in three sections. The first part, from Line 10 to line 140 is merely a demonstration of how to use Screensave. It asks for a filename and whether you want to load or save a screen. The second part is from 54000 to 54140 and is the loader. The loader sets the top of memory to HBFFFH (this means that BASIC can't put anything at any higher address) and then reads the machine code routines into the protected part of memory. These routines don't clash with the plot routines previously written by Lawrence Simons and they can all exist together quite happily.

Exit picture stage right

The fourth part is the actual machine code routines to save and load the screen. In its present form all you can save is whatever happens to be on the screen when you invoke it. But like Lawrence Simons' earlier offerings you are intended to adapt this program to your own purposes.

How do you do that? The simplest way is to put anything you like between lines 50 and 60. For example, if you put the line **55 PRINT CHR$(27) + "E" + CHR$(27) + "H"** then the screen would clear and the cursor homed before being saved. You will have a file 24k long with nothing but the cursor in it! If you'd called the file CLEAR.SCR then loading CLEAR.SCR again would overwrite everything on the screen leaving it blank (apart from the image of the original cursor and the proper flashing cursor).

Obviously the example is trivial but it shows one way to use the program for your own purposes. If you need to write a lot in between 50 and 60 then renumber the lines from 60 to 140 to give you extra room. Of course you can rewrite as much of the first section as you like just so long as you keep line 10 to set up the SCRNSAVE and SCRNLOAD routines in memory – and CALL the routines as demonstrated in line 120. The lines from 54000 onwards must be included in any program using the screen load and save routines.

No doubt there will soon be discs full of pictures doing the rounds all ready to be loaded in, worked on or simply admired. Send your best efforts to 8000 magazine for our delight and delectation.

Any program you write including these routines must include the lines from 54000 onwards.

```
10 GOSUB 54000                                                                  05F6
20 INPUT "Do you want to save or load (S/L)";S$                                 1794
30 IF UPPER$(S$)="L" THEN 100                                                   0B73
40 INPUT "What name for the screen file "; A$                                   15D8
50 A$=A$+CHR$(0)                                                                0516
60 CALL SCRNSAVE(A$,E%)                                                         0ABD
70 IF E%<>0 THEN PRINT "Screen save not successful. Try again": GOTO 40         2397
80 END                                                                          02B2
100 INPUT "What file do you want loaded";A$                                     1554
110 A$=A$+CHR$(0)                                                               0546
120 CALL SCRNLOAD(A$,E%)                                                        0AB6
130 IF E%<>0 THEN PRINT "File load unsuccessful. Try again": GOTO 100           21B9
140 END                                                                         0367
54000 REM Set up SCRNSAVE & SCRNLOAD machine-code routines                      1F4E
54010 MEMORY &HBFFF                                                             083B
```

1

```
54020 SCRNSAVE=&HC400:SCRNLOAD=&HC46D:A=SCRNSAVE:E=0                            1A99
54030 RESTORE 54150                                                             07C6
54040 FOR F=0 TO 40                                                             06F2
54050 S=0                                                                       0311
54060 FOR G=0 TO 7                                                              06E2
54070 READ X$:X=VAL("&H"+X$)                                                    0A33
54080 S=S+X:POKE A,X:A=A+1                                                      0BB9
54090 NEXT                                                                      03F6
54100 READ X$:IF S<>VAL("&H"+X$) THEN E=E+1:PRINT "ERROR IN LINE";10*(F+5415)
                                                                                21BF
54110 NEXT                                                                      03D2
54120 IF E=0 THEN RETURN                                                        0BC9
54130 PRINT E;"ERROR";:IF E=1 THEN PRINT ELSE PRINT "S"                         199A
54140 END                                                                       02E7
54150 DATA ED, 73, 4D, C5, 31, 6D, C5, D5, 4AA                                  0CF4
```

2

```
54160 DATA CD, DF, C4, CD, 2C, C4, CD, 04, 4FE      0DA0
54170 DATA C5, AF, F5, 01, 5C, C4, CD, 5A, 4B1      0C8A
54180 DATA FC, E9, 00, CD, 3C, C4, F1, 3C, 4DF      0D98
54190 DATA FE, 20, 38, EE, CD, 4C, C4, 11, 432      0CEF
54200 DATA 00, 00, 18, 6A, 0E, 16, 11, 5C, 113     0B38
54210 DATA 00, CD, 05, 00, 3C, C0, D1, 11, 2B0      0B1D
54220 DATA 02, 00, 18, 5A, 0E, 15, 11, 5C, 104     0B41
54230 DATA 00, CD, 05, 00, A7, C8, D1, 11, 323      0B4C
54240 DATA 03, 00, 18, 4A, 0E, 10, 11, 5C, 0F0     0B33
54250 DATA 00, CD, 05, 00, 3C, C0, D1, 11, 2B0      0B31
54260 DATA 04, 00, 18, 3A, CD, 29, C5, EB, 2FC      0C23
54270 DATA 11, 6D, C5, 01, D0, 02, ED, B0, 3B3      0B32
54280 DATA C9, 3C, 00, 4A, 00, ED, 73, 4D, 2FC      0C92
54290 DATA C5, 31, 6D, C5, D5, CD, DF, C4, 56D      0D2C
```

3

```
54300 DATA CD, B3, C4, CD, 04, C5, AF, F5, 57E      0D95
54310 DATA CD, C3, C4, F1, F5, 01, D3, C4, 5D2      0C99
54320 DATA CD, 5A, FC, E9, 00, F1, 3C, FE, 537      0D5D
54330 DATA 20, 38, EC, 11, 00, 00, D5, 0E, 238      0B06
54340 DATA 1A, ED, 5B, 49, C5, CD, 05, 00, 342      0C87
54350 DATA 0E, 2C, 3A, 4B, C5, 5F, CD, 05, 2B5      0C68
54360 DATA 00, D1, E1, 73, 23, 72, ED, 7B, 422      0BD0
54370 DATA 4D, C5, C9, 0E, 0F, 11, 5C, 00, 265      0C39
54380 DATA CD, 05, 00, 3C, C0, D1, 11, 02, 2B2      0BC7
54390 DATA 00, 18, D3, 0E, 14, 11, 5C, 00, 17A      0B1D
```

4

```
54440 DATA 45, C5, 73, 23, 72, 23, 36, 5C, 2C7      0B80
54450 DATA 23, 36, 00, 0E, 98, 11, 45, C5, 21A      0B4D
54460 DATA CD, 05, 00, 7C, B5, C8, D1, 11, 3AD      0C47
54470 DATA 01, 00, 18, A6, 0E, 31, 11, 69, 178      0B2B
54480 DATA C4, CD, 05, 00, 22, 49, C5, 0E, 2D4      0BCF
54490 DATA 1A, 11, 6D, C5, CD, 05, 00, 0E, 23D      0C3D
54500 DATA 31, 11, 6B, C4, CD, 05, 00, 32, 275      0B50
54510 DATA 4B, C5, 0E, 2C, 1E, 06, C3, 05, 236      0C2C
54520 DATA 00, 6F, 26, 00, 29, 29, 29, 29, 139      0AC6
54530 DATA 11, 00, B6, 19, 5E, 23, 56, 7B, 232      0B46
54540 DATA E6, F8, CB, 27, CB, 12, 47, 7B, 46F      0CC3
54550 DATA E6, 07, B0, 5F, C9, 00, 00, 00, 2C5      0B86
```

5

KEY TESTER

by John Warland

Each key generates its own unique number in the computer when pressed. Pressing "a" sends 97 to your PCW; [DEL] left sends 127. If the program you're writing tests the keys pressed by the user (with INKEY$ for example) you'll want to know which key sends which number.

Just run the program and press any key. the value it generates will be displayed in both decimal and hex. When the screen is full it clears and you can do it all again.

The program works by using INKEY$ to get the value of the key you pressed and assigning it to i$. The actual numeric value is found with ASC(i$) and this is used from then on.

```
Key tester by John Warland
Key          ASCII Num      Hex Num
a              97             61
b              98             62
c              99             63
d             100             64
A              65             41
B              66             42
C              67             43
D              68             44
X              29             1D
```

Character values at a glance

```
10 PRINT CHR$(27)+"E"+CHR$(27)+"H"                                  0B41
15 PRINT "Key tester by John Warland"                               13CB
20 PRINT "Key","ASCII Num","Hex Num"                                1031
30 i$="":WHILE i$="":i$=INKEY$:WEND                                 1056
40 count=count+1:IF count=28 THEN RUN                               153B
50 IF ASC(i$)<33 THEN 70                                            0966
60 PRINT CHR$(ASC(i$)),ASC(i$),HEX$(ASC(i$)):GOTO 30                1488
70 PRINT CHR$(27)+CHR$(ASC(i$)),ASC(i$),HEX$(ASC(i$)):GOTO 30       1A79
                                                                    0000
```

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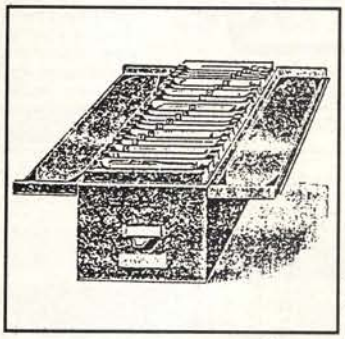

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STATUS LINE PLUS

by DJ Miller

The alternative printer status line

LPRINT is a program to enhance the printer setting capabilities of the [PTR] key. Pressing [PTR] when using CP/M produces a set of options on the bottom line of the screen (the status line). These options allow you to control the printer – line feed, form feed, etc. LPRINT gives you the ability to change other printer settings, such as lines per inch, line pitch, emphasis, etc., in a similar fashion.

The program should be called LPRINT.BAS and is designed to be used from the CP/M prompt. As well as the program LPRINT.BAS itself you will need SUBMIT.COM and BASIC on the M drive. You also need the following submit file named LPRINT.SUB. Now all this might seem a bit over the top but the final effect is so useful it really is worth setting it up.

```
PIP (name of file)=CON:[Q ^Z]
<$1
BASIC LPRINT.BAS
```

Create the above SUBMIT file using ED or RPED. The first line uses PIP to copy input from the console (keyboard) to a file. The Q option tells PIP to end the input when it encounters the character string following, in this case a blank. The ^Z terminates the string. The control character ^ is produced by pressing EXTRA and U.

The second line uses the SUBMIT facility of "stacking" console input. The "stacked" input from the "console" is written into a file, which can then be interrogated by a BASIC program. Finally the third line calls the BASIC program LPRINT. The file FILENAME.EXT contains the parameters you passed to the SUBMIT command.

For example, if you entered the command LPRINT NEWFILE, then FILENAME.EXT would contain the single line NEWFILE. Your BASIC program could then interrogate that using a program line such as:

```
100 OPEN "I",1,"FILENAME.EXT": INPUT
#1,F$: CLOSE 1
```

The variable F$ would then contain the string "NEWFILE".

From CP/M type `lprint`, followed optionally by a filename, e.g.
`lprint` or `lprint letter.doc`.
The screen is cleared, and a set of options appears on the bottom line of the screen, in a similar fashion to that when the [PTR] key is pressed. **Printer: LM: 0 | RM: 80 | PL: 70 | LPI: 6 | GAP: 3 | Pica | Upright | Normal**

Lprint the Ifile and Ibe Iquick

Initially, the left margin (LM) setting is highlighted. The value of zero can be increased and subsequently decreased by pressing the up arrow or down arrow keys (which act in auto-repeat fashion). To select another parameter to modify, use the left arrow or right arrow keys. The parameters that can be set are as follows:

LM: Left Margin (0-133)
RM: Right Margin (4-139)
PL: Page Length (1-127)
LPI: Lines Per Inch (6, 8 or 10)
GAP: Lines left blank at bottom of page (0-127)
Pica: Pica (10), Elite (12), Proprtn (proportional) or Condnsd (17)

Error terror

With each screen occupying 24k of disc space it's easy to make a mistake. Lawrence Simons has anticipated this and error messages are returned in E%. What you do then is up to you.

No.	SCRNSAVE	SCRNLOAD
0	success	success
1	bad filename	bad filename
2	couldn't create file	couldn't open file
3	disc write error	disc read error
4	couldn't close file	

```
100 OPTION NOT TAB: WIDTH 255: DEFSTR a-z: REM print a file from CP/M          232B
110 f=FIND$("FILENAME.EXT")                                                    0BB8
115 IF f<>"" THEN OPEN "I",1,f: INPUT #1,s: CLOSE 1: KILL f: f=s               1ABF
120 esc=CHR$(27): brv=esc+"p": erv=esc+"q"                                     11F0
125 DEF FNp(c%)=esc+"Y"+CHR$(63)+CHR$(c%+31)                                   1089
130 plus=CHR$(22): minus=CHR$(28): left=CHR$(1): right=CHR$(6): exit=CHR$(27) 22F8
140 up=CHR$(31): down=CHR$(30): vl=CHR$(149)                                   120F
150 t(1)="LM: ": t(2)="RM: ": t(3)="PL: ": t(4)="LPI:": t(5)="GAP:"            14F6
160 p%(1)=0: p%(2)=80: p%(3)=70: p%(4)=6: p%(5)=3: p%(6)=0: p%(7)=0: p%(8)=0   15E7
```

1

```
170 m%(1)=133: m%(2)=139: m%(3)=127: m%(4)=10: m%(5)=127: m%(6)=3: m%(7)=1: m%(8)=1
                                                                               1812
180 n%(1)=0: n%(2)=4: n%(3)=1: n%(4)=6: n%(5)=0: n%(6)=0: n%(7)=0: n%(8)=0    146B
190 o(6,0)="Pica   ": o(6,1)="Elite  ": o(6,2)="Proprtn": o(6,3)="Condnsd"     1AC2
200 o(7,0)="Upright": o(7,1)="Italic ": o(8,0)="Normal ": o(8,1)="Enlarge"     1DA3
210 PRINT esc+"H"+esc+"E"+esc+"0"+esc+"f";                                     1143
220 PRINT esc+"X"+CHR$(63)+CHR$(32)+CHR$(32)+CHR$(121);                        1381
230 PRINT brv+"Printer"+erv+": LM:   0 "+vl+" RM:  80 "+vl+" PL:  70 "+vl;     1A90
240 PRINT " LPI:  6 "+vl+" GAP:  3 "+vl+" Pica    "+vl+" Upright "+vl+" Normal  "+vl;
```

2

Upright: Upright or Italic
Normal: Normal width or Enlarged (double) width

In the middle of all this, you can at any time press the [PTR] key and go to the normal printer status line, to change from draft to high quality printing, for example. When you press [ENTER] you return to the LPRINT options.

Press [EXIT] to return to CP/M. If a filename was specified when LPRINT was invoked, then the file specified will be printed out in the style selected (make sure there is paper in the printer). If no file was specified, then the chosen printer settings are stored in a file called M:LPRINT.LST, in a form suitable for the SETLST command to use, e.g. SETLST LPRINT.LST. The printer settings are not affected until the SETLST command is issued.

Clever lines

Line 100 sets the TAB and WIDTH settings to allow full screen control. Note the use of DEFSTR to avoid having to type in all those tedious dollar signs at the end of string variables. Line 110 looks for a file called FILENAME.EXT, reads the contents (the file to be printed if it was specified) and deletes it, saving the file to be printed in the string variable "f". Lines 120-140 define the screen control characters, whilst lines 150-200 set the variables used for the parameter names ("t"), default values ("p%"), maxima ("m%") and minima ("n%"). The non-numeric values are held in string array "o".

Lines 210-240 set the screen up, whilst lines 250-380 handle the keyboard input and reset the printer values accordingly, leaving line 390 to clear up the screen afterwards. Lines 400-470 build the printer command string – note how line 400 sets up "esc" and "FNum" according to whether a file is to be printed or not. Finally, line 480 builds the LPRINT.LST file, or line 490 prints the file in the style chosen.

How to type in listings

First you need Mallard BASIC running on the PCW. To do this insert your CP/M copy disc, run CP/M and type `BASIC` at the A>.

BASIC will load and print `Ok` to show it is ready. Now you can type in the listing as it appears on the page line by line but don't type in the four figure number at the end, this is a check number.

When the line is complete press [RETURN] and BASIC will digest it. If you make a mistake and notice it before pressing [RETURN] use [DEL] to get rid of it and type in the correct version. If you spot it after pressing [RETURN] type `edit` and the line number. You can then move along the line with the cursor keys, [DEL] the offending characters and retype. Finally press [RETURN] and the line will be accepted in the corrected form.

To see lines already put in type `list` and to print them out `llist`. When the listing is complete type `save "a:keyprog` or whatever you want to call it, there is no need to type `bas` after it. The filename can be any name up to 8 letters long. The listing is now safe on disc.

If the program doesn't run first time check your listing against the magazine listing. Usually there will be an error message giving a line number which will narrow down the search for the mistake though the mistake may not be in that particular line.

To run a program previously saved type `load "a:keyprog` or whatever the name is and then `run`. Any program can be loaded from any drive simply by preceding the program name with the drive letter and a colon. As a last resort – if all else fails – read the manual.

```
                                                                        1D86
250 k=plus: i%=1: REM get input from keyboard                           1674
260 WHILE k=plus OR k=minus OR k=up OR k=down OR k=left OR k=right      238C
270   WHILE k=plus OR k=minus OR k=up OR k=down                         1778
280     IF i%<6 THEN PRINT FNp(i%*10)+brv+t(i%)+DEC$(p%(i%),"###")+erv; 1BCB
290     IF i%>5 THEN PRINT FNp(i%*10)+brv+o(i%,p%(i%))+erv;             1795
300     k="": WHILE k="": k=INKEY$: WEND                                0E5E
310     IF k=plus OR k=up THEN p%(i%)=MIN(p%(i%)+1-(i%=4),m%(i%))       174B
320     IF k=minus OR k=down THEN p%(i%)=MAX(p%(i%)-1+(i%=4),n%(i%))    1AF3
330     WEND                                                            03F6
340   IF i%<6 THEN PRINT FNp(i%*10)+t(i%)+DEC$(p%(i%),"###");           1568
350   IF i%>5 THEN PRINT FNp(i%*10)+o(i%,(p%(i%)));                     12AD
360   IF k=left THEN k=plus: i%=i%-1 ELSE IF k<>exit THEN k=plus: i%=i%+1 2179
370   IF i%=0 THEN i%=8 ELSE IF i%=9 THEN i%=1                          1227
380   WEND                                                              0405
```

3

```
390 PRINT esc+"1"+esc+"e";: OPTION TAB: WIDTH 90: REM build printer controls    265F
400 IF f="" THEN esc="^'ESC'": DEF FNum(n%)="^'"+STR$(n%)+"'" ELSE DEF FNum(n%)=CHR$(n%)
                                                                                214A
410 lp=esc+"W"+FNum(p%(8))+esc                                                  0C66
420 IF p%(4)=6 THEN lp=lp+"2" ELSE IF p%(4)=8 THEN lp=lp+"0" ELSE lp=lp+"1"     1EF5
430 lp=lp+esc+"C"+FNum(p%(3))+esc+"N"+FNum(p%(5))+esc                           15D2
440 IF p%(6)=0 THEN lp=lp+"P" ELSE IF p%(6)=1 THEN lp=lp+"M"                    18E8
450 IF p%(6)=2 THEN lp=lp+"p"+FNum(1) ELSE IF p%(6)=3 THEN lp=lp+FNum(15)       1F63
460 IF p%(7)=1 THEN lp=lp+esc+"4" ELSE lp=lp+esc+"5"                            1697
470 lp=lp+esc+"l"+FNum(p%(1))+esc+"Q"+FNum(p%(2))                               145E
475 IF f<>"" THEN IF ""=FIND$(f) THEN f=""                                      0F08
480 IF f="" THEN OPEN "O",1,"LPRINT.LST": PRINT #1,lp;: CLOSE 1: SYSTEM ELSE LPRINT lp;
                                                                                2AA3
490 OPEN "I",1,f: WHILE NOT EOF(1): LINE INPUT #1,lp: LPRINT lp: WEND: CLOSE 1: SYSTEM
                                                                                28E1
```

4

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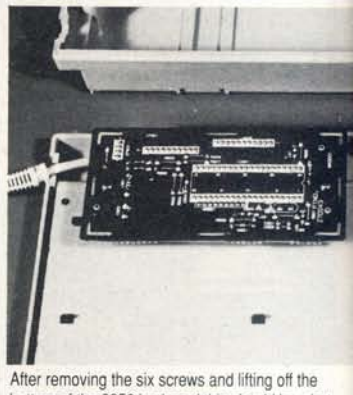
This month the money goes to G Buckeridge of Bristol for putting record numbers into Mini Office database files, Chris Quinn for his way of running Mini Office from drive B, and Mary Nichols of Ely for her advice on printing labels in LocoScript.

The key to success

Long standing PCW owners may be having trouble with their keyboards – for example any attempt to use the [SHIFT LOCK] producing a stream of characters on screen. Most of the time all it needs is a quick disassembly, a wipe, and a reassembly – a matter of a few minutes. As faulty keyboards are between £15 and £65 to repair and £155 to replace, it's certainly worth a try!

The first step is to remove the six screws from the base and separate the top and bottom layers. This is followed by



After removing the six screws and lifting off the bottom of the 8256 keyboard this should be what you will see

LocoScript mean time

With 3" discs being somewhat expensive a tip which saves space on them is worth passing on. While there are several programs in the public domain which will squeeze a file (NSWP for instance) it then has to be unsqueezed before it can be used again. This is awkward if you're working in LocoScript.

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A simpler way to save space is by turning your files into ASCII versions. Use [f1] and select the Simple Text File option from the menu. This can eliminate as much as 10k from a 40k file. Of course you lose any control codes such as bold or underline.

To reconstitute the document create an empty file and insert the ASCII file into it ([f1] Loco 2, [f2] Loco 1). This process is ideal for backups of little used files.

Stephen Coombs
Cannock, Staffordshire

The portable sort

Z88 owners have a sort routine built into their word processor, PipeDream. If you have a list to sort into order – the index for your book, for example – just save the file as ASCII (in LocoScript, [f1] in Loco 2 and [f2] in Loco 1), transfer it to the Z88, sort it by marking out the block to sort ([DIAMOND]Z at either end then [DIAMOND] BSO) save it and send it back (see pages 53-4). Particularly if you have a long list or several ones to sort this can save a lot of time over doing it manually.

Hieronymus van Rijn
Utrecht

Tabby tip

In any LocoScript menu which has sections separated by double lines, pressing [TAB] takes you immediately to the next section in the menu.

Basil Pigg
Devon

Got your number

Mini Office's Database lacks one important feature – the ability to put record numbers into records. This would be extremely useful as eg. a reference in a mail merge document, a report or label.

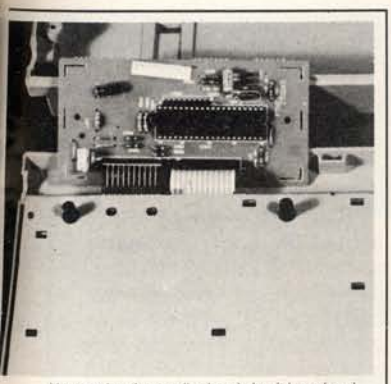
However it can be done with the listing below. This will convert your Mini Office data file (given a slight alteration to the first two records) into one with record numbers inserted.

The very first step is to type in and save the listing below as say RECORD.BAS (see 'How to type in a listing' in this month's Listings pages if you're not sure).

Go into Mini Office and select the database program then load your database file. From the database menu select 'Alter structure'. Press 'A' to Add a new field, call it RECORD, make it 'alpha', position it anywhere you like on screen and make it three characters long.

Now go into 'edit data' mode and edit record 1. Cursor up

The number in the record will only match the record number if the file isn't sorted again

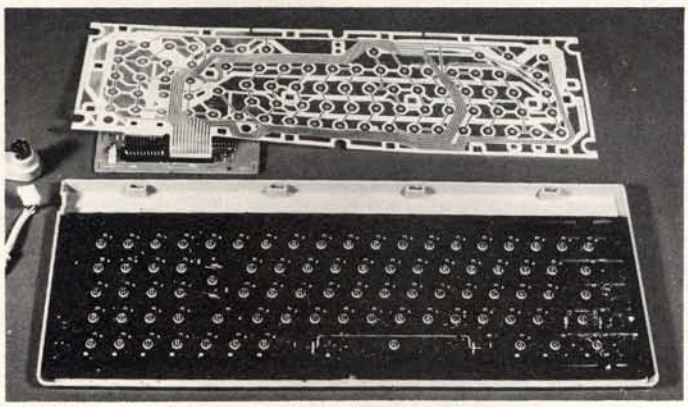


Unscrewing the small printed circuit board and unhooking the pegs will allow you to remove the metal plate and separate the membrane.

unplugging the lead to the monitor and then removing the two small screws which hold the green printed circuit board to the main keyboard.

The main keyboard now has to be dismantled. There are several rows of black pegs protruding through the metal base. Each of these hook shaped pegs must be sprung out of their slots. Finger pressure is enough but work from the front to the back not from side to side.

This will leave two metal plates and a flexible membrane to which the small printed circuit board is attached.



This is why it wasn't working! The amount of crud in there is staggering.

The membrane will probably be covered in a thin mat of dust and fibres which can short circuit the electrical connections on the membrane.

After wiping the membrane clean and blowing dust from the top and bottom plates re-assemble it as above in reverse. You'll probably find that the keyboard now works perfectly.

GA Doyle
Wolverhampton

Mini Office from B

Don't believe everything you read. It is possible to get Mini Office Professional to load and run from drive B!

First copy all the Mini Office files to a drive B disc. Insert your CP/M disc and type `PIP`. At the asterisk prompt insert your Mini Office disc in A, a formatted disc in B and type
`B:=A:*.*[RV]`[RETURN].

Now create another file on drive B called MOP.SUB using RPED (or anything else that will produce an ASCII file – LocoScript for example) containing the following lines:

```
B:
OFFICE
A:
```

Make sure the files SUBMIT.COM and SETDEF.COM are on the disc you usually boot CP/M Plus from (If you've made a copy of your CP/M disc they will be – check with DIR) and either create a PROFILE.SUB file with RPED containing the following line, or insert it into your existing PROFILE.SUB file:

```
SETDEF B:,A:,M:[ORDER = (SUB,COM) TEMPORARY = B:]
```

You will now be able to run Mini Office and all of its parts from the B drive by typing `MOP` at the A> prompt – or have it auto run by putting `MOP` as the last line in the PROFILE.SUB. In either case you must have the Mini Office copy disc in B of course.

The only slight problem is that when loading or saving files or showing directories you will be given a default of A: unless you use the 'Catalogue Files By' option each time you load up and run a module.

Chris Quinn
The Wirral, Merseyside

should take you straight to the place where your record numbers are going to be. Type `###` here, followed by [ENTER], then [EXIT].

Record 2 has to be prepared in the same way with another `###`. Now re-save the file back to disk and leave Mini Office.

Now take a disc with BASIC.COM and the listing below (ie. RECORD.BAS) and your database file. Type BASIC RECORD to run the program. When prompted, give the filename of the Mini Office database (including the .DBS) and be prepared for a short delay.

That's all. Re-run Mini Office and examine the database file. Every record will be labelled with a number accessible from the Merger or the Report and Labeller.

To explain, all you have done is create a new field called RECORD and made sure that there is dummy data (###) in the first two records. The RECORD program checks that this is done accurately, and will abort with an error message if it's not happy.

The only limitations are that there should be no more than 256 records in the file, and each record should not exceed 512 characters. If you have a large database copy it to the M drive for speed.

GR Buckeridge
Bristol

```
10 DEFINT a-z
20 ON ERROR GOTO 390
30 PRINT:LINE INPUT "Mini-Office Filename Please -
";filename$
40 PRINT: OPEN "R",#1,filename$,1
50 FIELD #1,1 AS a$
60 FOR j=1 TO 8:GET #1,j:b$=b$+a$:NEXT
70 IF b$<>"MO3 Data" THEN PRINT"NOT a Mini Office
Database file":END
80 FOR i=32 TO 512
90 GET #1,i
100 IF UPPER$(a$)<>"R" THEN 130
110 b$="":FOR j= i TO i+5:GET #1,j:b$=b$+UPPER$(a$):NEXT
120 IF b$="RECORD" THEN 150
130 NEXT
140 PRINT"NO Field called RECORD":END
150 s=i+6
160 FOR i=s TO i+512
170 GET #1,i
180 IF a$<>"#" THEN 210
190 b$="":FOR j= i TO i+2:GET #1,j:b$=b$+a$:NEXT
200 IF b$="###" THEN b=i:GOTO 230
210 NEXT
220 PRINT"NO Opening '###' Field":END
230 s=i+3
240 FOR i=s TO i+512: GET #1,i
250 IF a$<>"#" THEN 280
260 b$="":FOR j=i TO i+2:GET #1,j:b$=b$+a$:NEXT
270 IF b$="###" THEN e=i:GOTO 300
280 NEXT
290 PRINT"NO Closing '###' Field":END
300 GET #1,46:recs=ASC(a$): d=e-b
310 FOR i=1 TO recs
320 rec$=DEC$(i,"###")
330 FOR j=0 TO 2
340 LSET a$=MID$(rec$,j+1,1): PUT #1,b+j
350 NEXT
360 b=b+d: PRINT"*";
370 NEXT
380 CLOSE #1: END
390 IF ERL=40 THEN PRINT"Try Another Filename":RESUME 20
```

Capital idea

Just occasionally you need files converted from mixtures of lower and upper case (Like This) into upper case only (LIKE THIS) – mailing labels for example.

Suppose your mailing list (saved in ASCII) is called LIST.LBL. In CP/M, type `PIP` and make a copy in capitals of the file by typing at the asterisk

```
LIST.CAP=LIST.LBL[U].
```

It can take a bit of time!

The file LIST.CAP can be re-inserted in the original database (or back in LocoScript, via 'insert text'). Your original file in lower and upper case is still intact of course.

Patrick Leggatt
Farnham, Surrey

```
Bruno Denti             Via Mozzarella 35 Gelateria Roma Italia
Mohandas K Gulabjamun   17 Wellesley St Calcutta West Bengal India
James Kelly             11 Sussex Gardens Croydon Surrey CR22 5EQ
Ben Macdhui             3 Earghyllauich St Bruaichnafhauich Inverness Scotland
H A Patterson           4 Gladstone Terrace Scotswood Glasgow GL4 2EH
Reginald St John-Hyphen The Manor Grantbury Hampshire SO23 6YH
Mieko Takahashi         63 Happy Heights Sunshine Buildings Kemuri Tokyo T145 Japan
Slobodan Wszczkwcz      Szczwlcza Ave 24 Zblwczsza Gdnsk Poland
Zimmerman & Klein       203 Hayes Crescent Golders Green London NW8
Hieronymus van Rijn     Rembrandtstraat 73 Utrecht The Netherlands
```

That name and address list before...

```
BRUNO DENTI             VIA MOZZARELLA 35 GELATERIA ROMA ITALIA
MOHANDAS K GULABJAMUN   17 WELLESLEY ST CALCUTTA WEST BENGAL INDIA
JAMES KELLY             11 SUSSEX GARDENS CROYDON SURREY CR22 5EQ
BEN MACDHUI             3 EARGHYLLAUICH ST BRUAICHNAFHAUICH INVERNESS SCOTLAND
H A  PATTERSON          4 GLADSTONE TERRACE SCOTSWOOD GLASGOW GL4 2EH
REGINALD ST JOHN-HYPHEN THE MANOR GRANTBURY HAMPSHIRE SO23 6YH
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ZIMMERMAN & KLEIN       203 HAYES CRESCENT GOLDERS GREEN LONDON NW8
HIERONYMUS VAN RIJN     REMBRANDTSTRAAT 73 UTRECHT THE NETHERLANDS
```

...and after conversion

STOP right there

If you've inappropriately selected 'Finish Edit' or 'Save and Print' while editing a LocoScript document, if you act quickly you can usually manage to remain in edit mode by pressing [STOP] twice.

Ivanka Groznaya-Shutka
Reading

Dated tip

This routine enables Protext users to put today's date in the current document by pressing [EXTRA]D – but also enables you to have the date inserted for you automatically in a document as it prints out.

To begin, first insert the line `EXEC A:DATE1 |13|` into your STARTUP file. Next create a one line document called DATE1, consisting of `PF TODAY DATE1 |13|`. The word 'today' represents a data file which will contain only one line – today's date.

Finally you need to create a document file called DATE which is to consist of the following commands:

```
>zm
>av "Enter date: " date
>sv
date1=date[w1]+date[w2]+date
[w3]+date[w4]+date[w5]
>ex key d &date1&
>&date&
>st
```

On starting up Protext in the morning, it will display the message "Enter date: " and wait for the date to be entered. The third line is required to ignore any spaces or other delimiters in the variable "date". This might otherwise cause problems if you entered the date as 26 / 11 / 88 for example. If the spaces aren't stripped out then only part of the date will show up on pressing [EXTRA]D.

If you want a document to always have the current date whenever it's printed out, include the sequence:

```
>df today
>rv today
```

in the document. The current date will now automatically be printed wherever on the letter you put the variable &today&.

F B Banks
Nassau, Bahamas

```
PROTEXT  Document date        1K    Justify Off        Word-Wrap    ALT-H For Help
Page 1   Line 1    Col 1             No markers set                    Insert
|-------|-------|-------|-------|-------|-------|-------|-------|----R
>zm
>av "enter date: " date
>sv date1=date[w1]+date[w2]+date[w3]+date[w4]+date[w5]
>ex key d &date1&
>&date&
>st
```

If you write a lot of letters then you need this Protext exec file to make sure your letters are never out of date

LocoScript labels

Printing continuous labels from LocoScript 2 can be easy if the label file is set up so that each name and address uses one page in a document. To do this you need to set up a page type and a template with a length equal to the number of lines on your labels (including the space between the bottom of one label and the top of the next). The simplest way to find the length is to feed in your labels and use direct printing to fill the label and then count the rows and columns. Allow an extra line for the space between the labels. Usually you can get 8 lines printed on a label but the tops of the labels themselves will be 9 lines apart, so your page length should be 9.

From the Disc Management Screen use [f6] to make a continuous paper type which has no top gap, the height you've calculated, and a bottom gap of one. Save it to SETTINGS.STD and call it LABELS.

Use an empty group on your correspondence disc and rename it LABELS then set up a TEMPLATE.STD and a layout using the paper type LABELS you have just set up with no header and no footer. Set the margins to suit your label size less at least one character at either side.

Now simply create a document in which every name and address takes at least one page. If the name and address doesn't use the full depth of the page simply put in an End Page Here code with [ALT][RETURN]. When you print out your labels you may have to 'change to paper type intended for document' unless your printer is set up to print in LABELS.

In LocoScript 1, things are a little different. Your name and address list still has one item per page with an empty header and footer, but there is no concept of 'paper type'. Instead you have to configure the printer before you print them out as follows: press [PTR] and through [f1] set continuous stationery, the 'form length' to 9 and the gap to zero. [EXIT] leaves the 'printer control state' and you can then print out the labels.

Mary Nichols
Ely, Cambridge

Phrases overheard

If you need to frequently italicise or embolden words in Protext then performing the three key strokes needed ([ALT] X and the relevant code key) can get irritating after a few repetitions, and of course there is the ever present danger of forgetting to turn the code off – hands up anyone who has watched most of a letter print out underlined or italicised, or worse, everything the wrong way around, because of a missed code.

A neat solution to the problem is to tap in a phrase such as `Key b ^24^b^24^b^242^`. What this does is to put the two codes for bold onto the screen and then backspace over the second one. Now, as you type, the second code will be pushed along ahead of the words. When you have written as much as you wish simply cursor over the second code. There isn't any way you can forget to turn off your special effects with this phrase in operation.

To get other effects just replace the `b` with the letter of your choice. To automate this process all the printer control codes you would normally use can be put into your startup file and will then be available every time you turn on the machine.

D Bell
London

Pitching it right

LocoScript gives a good choice of line pitches – 5, 6, 7½ and 8. However, for filling in forms and for display work on the 9512 line pitch 7 is frequently required. The solution is simple.

If you use (+LS½)(+LP6)[RETURN](+LP8)[RETURN] at the end of each line this will give line pitch 7. It can be pasted into a phrase and of course switched off with (-LS)(-LP).

Other combinations are possible. For example

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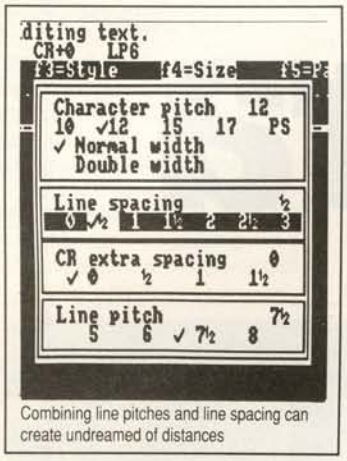


Combining line pitches and line spacing can create undreamed of distances

(+LS1/2)(+LP5)[RETURN] (+LP8)[RETURN] gives a line pitch of 6 1/2. By combining the 7 1/2 line pitch with other line pitches it is possible to produce 5 3/4, 6 1/4, 6 3/4 and 7 1/4. This ability can be surprisingly useful when filling in pre-printed stationary to produce a truly professional finish.
S N Garril
St Annes, Lancs

Starlight, starbright

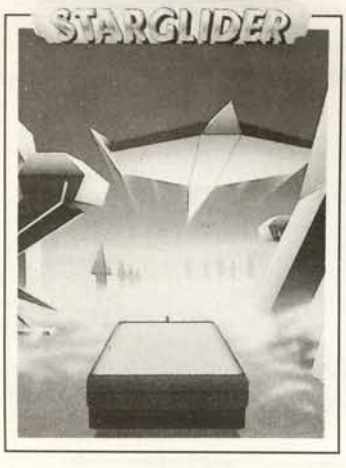
If you tend to put the spreadsheet away when no one is looking and take up work as a pilot in Starglider these hints may get you a little bit further.

The playing grid is divided up into 10,000 sections represented by co-ordinates at the bottom of the screen in the format xx,yy.
to increase xx head 090E
to decrease xx head 270W
to increase yy head 000N
to decrease yy head 180S

The game cannot be completed without visiting the docking stations and energy towers on each level. These are in the following locations.

Docking stations	Energy towers
Level 1	
48:53	9:12
11:84	87:37
92:61	56:89
59:15	
Level 2	
35:11	32:88
34:64	42:35
94:45	82:12
92:61	85:08
Level 3	
59:88	35:10
92:61	85:82

To reach the second level you have to score 10,000, to reach the third 20,000.
Andrew Long
London



Consistently good

The message 'Files inconsistent' is enough to make even hardened JETSAM users blanche; it usually signals the end for any files you've been working on; you don't only lose the index file but the data file as well. JETSAM cannot re-index a data file.

The problem doesn't occur often once a program is up and running, fortunately, but is common in the development phase. The problems can be minimised by always closing the files manually if a program stops with an error. Do this by typing `close 1,2,3` at the keyboard, it isn't enough to type close on its own. the files must be closed before the program is run again or the files will become inconsistent.

During development put in plenty of `CONSOLIDATE(n)` – where n is the file number – commands to keep the files consistent even when open.

If all of this isn't enough the program that follows provides one last chance. However, even though it will make JETSAM believe in the files again it doesn't guarantee they will actually be any use. Any data being written when the program crashed, or that hadn't been updated in both the index and data files, will be in a mess, especially if a lot of BUFFERS were in use at the time.

```
10 PRINT "Recover
inconsistent JETSAM files"
20 INPUT "Data filename
";datafile$
30 INPUT "key file name
";keyfile$
40 OPEN "R",1,datafile$,16
50 FIELD 1,6 AS z1$,1 AS
mark1$
60 GET 1,1
70 OPEN "R",2,keyfile$,16
80 FIELD 2,8 as z2$,1 AS
mark2$
90 GET 2,1
100 PRINT "Data file has
marker ";ASC(mark1$);" Key
has marker ";ASC(mark2$)
110 IF mark2$=mark1$ THEN
PRINT "files already
consistent ":GOTO 150
120 LSET mark1$=chr$(1)
130 LSET mark"$=chr$(1)
140 PUT 1,1:PUT 2,1
150 CLOSE 1: CLOSE 2
```
Adrian Wilkins
Bristol

PlanIt pirates

Despite the claim of the PlanIt manual that it is protected against illegal copying it is possible to set up an auto boot disk.

Using the original disc on a daily basis seems fraught with risk and it is sensible to keep the original safe and work from a copy.

To make a working copy load type `BASIC RPED`, to get into the editor and select the new file option. Call this PLANIT.SUB – now type in:

```
PIP M:=A:*.*
M:
PAPER 11
BASIC INSTALL
```

Save this file to a blank formatted disc in the A: drive. Now load PIP from your system disc to the M: drive and use it to copy your original PlanIt disc to the M: drive using `PIP M:=A:*.*` – similarly use PIP to copy PIP, PAPER and SUBMIT to the M: drive.

Now type `M:`[RETURN] to change the prompt to M> and then ERA READ.ME. Next type `PIP A:=M:*.*`[RETURN] having first replaced the disc with the PLANIT.SUB file on in drive A.

You should now have a complete copy of PlanIt on your new disc. To run it put a disc with CP/M in the A: drive and when you see the A> prompt swap it with your new PlanIt disc and type `SUBMIT PLANIT`[RETURN]. Since you will now be running the program from drive M: it will also run faster.
JS Smith
Dumfries

For ST freaks

Most Locomail routines tend toward the serious so by way of a change here is a routine that calculates the result of the Sunday Times weekly Entrepreneur Competition.

When run in Fill mode it asks for the date, the target and the newspaper published values coinciding with the numbers of the player's cards. On completion of the processing it shows the total, compares it with the target and announces success or failure. The 'e' numbers should be changed to match the player's card numbers.
P Johnson
Leicester

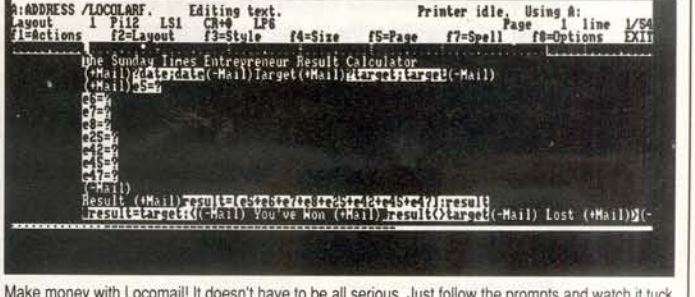
The Locomail routine is as follows:

```
(+Mail)?date;date(-Mail)
Target
(+Mail)?target;target(-Mail)
(+Mail)e5=?
e6=?
e7=?
e8=?
e25=?
e42=?
e45=?
e47=?
(-Mail)
Result
(+Mail)result=[e5+e6+e7+e8+
e25+e42+e45+e47]:result
#result=target:(-Mail)
YOU'VE WON!
(+Mail)#result<>target:
(-Mail) LOST (+Mail)>(-Mail)
```

Cut it out

When you need to insert addresses, times of meetings, etc into preprinted leaflets a quick and easy way is as follows: first cut a window in one of the leaflets where the information is to appear and then lay the leaflet over a printout of any wordy document on a similar sized piece of paper. (The back of another leaflet perhaps).

Place the leaflet with the cutout over the printout and mark the text. Next load LocoScript with the document and cursor to the words marked. You will now see exactly which line and column your text should be on. Make a note, abandon the edit and create a template specifically for the new document which ensures accurate positioning of the printout without any trial and error.
Wendy Richards
Par, Cornwall



Make money with Locomail! It doesn't have to be all serious. Just follow the prompts and watch it tuck itself away

Bradway Software (8P)

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FT = DB is still available for other Wordprocessors at £29.95. LocoScript 2 is a Trademark of Locomotive Software
Note: Script2Base cannot display or print the full range of Locoscript characters available with 'Supershifts.'

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TAKE A LEAF OUT OF OTHER'S BOOKS

If you are one of those people who use card indexes or word processors to maintain notes, lists or catalogues, read on!

You might be a Bookseller, a Club Secretary, an Historian, a Research Worker, a Collector, a Naturalist or a Writer. Chibase is used regularly by people involved in all these activities to maintain the records which form an integral part of their activities. Whichever of these people you are, if you are not using Chibase but you are looking for a more powerful alternative to cards or word processor files then read some more.

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Chibase is supplied with a 30 page manual and, because your views count with Chiasma, there is a questionnaire which we ask you to complete.

Chibase has been designed and written by Chiasma Software for PCW8256, 8512 and 9512 computers. Chibase is fully supported by Chiasma Software and Cwmbran Computer Centre so you are always assured of our best attention. If you have any questions, please do not hesitate to ring either of the numbers below.

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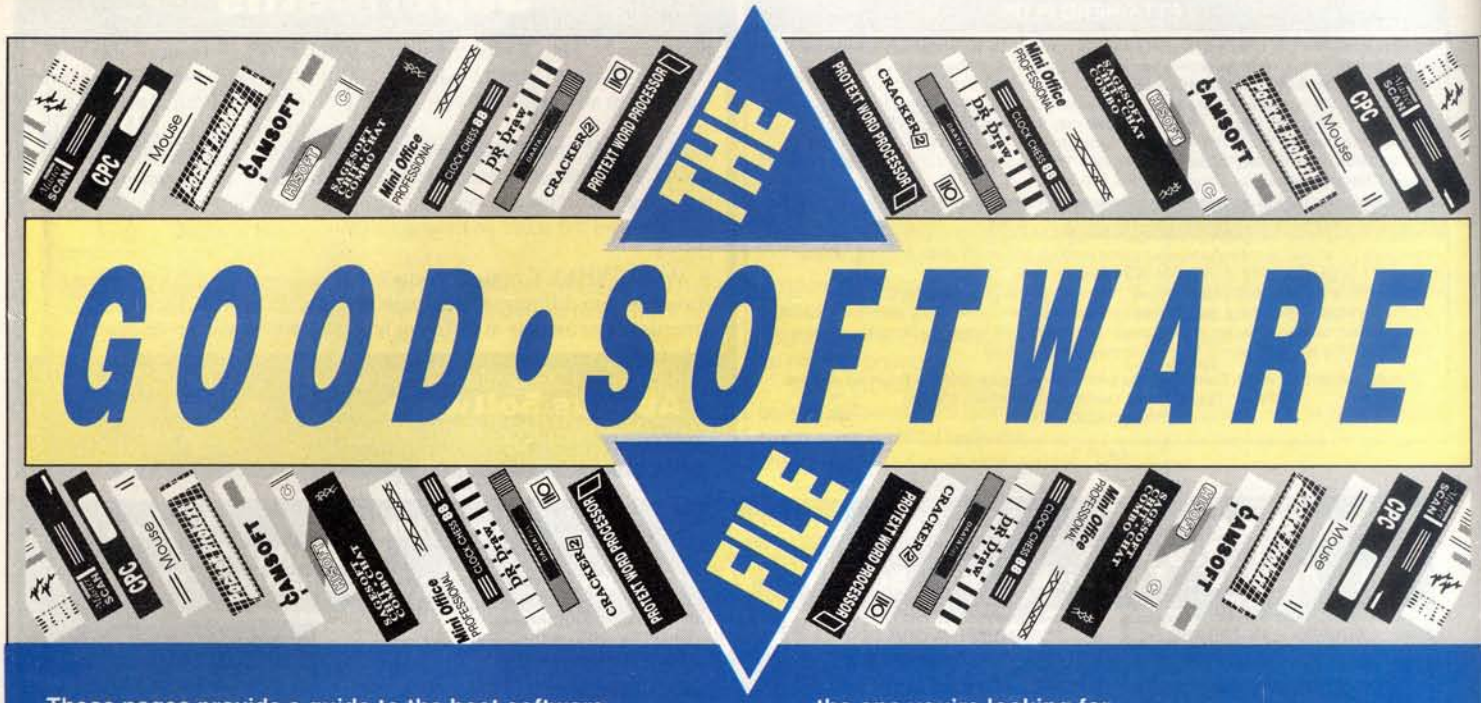

These pages provide a guide to the best software around for the Amstrad PCW. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to test every piece of software we could lay our hands on, and to give you enough information to decide which program is the one you're looking for.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available. As well as a brief summary of what they do, there are the main Plus and Minus points for each program - Pluses have a ▲ by them, Minuses a ▼.

• SPREADSHEETS •

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet printout of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if changes are made to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use – all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

MINI OFFICE PROFESSIONAL

£29.95 • Database Software • 0625 878888

Mini Office is a suite of five integrated programs – database, word processor, graphics module, comms package, and a very good spreadsheet. Broadly similar to SuperCalc in operation with usual features of auto or manual recalculation, replicating of rows/columns, powerful range of arithmetic functions etc. Printout is a strong point - rows/columns can be put into italic/bold etc, and prints draft, NLQ or even sideways! Can't sort and can't just save data or structure of a spreadsheet, but maximum size of spreadsheet is claimed to be 320k. You can use the data from a spreadsheet in the graphics module directly. The manual is, however, pretty useless.

PLUSES • MINUSES

- ▲ Good, full-featured easy to use spreadsheet
- ▲ Prints in draft, NLQ or even sideways
- ▲ Maximum size of spreadsheet 320k
- ▲ Can transfer data directly to graphics module
- ▼ Manual is little more than an index of commands
- ▼ Working out how to transfer data to graphics module requires a lot of inspired guesswork
- ▼ 'Save' options not as versatile as SuperCalc

Good value

CRACKER TURBO

£49.95 • Software Tech • 0277 220573

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g DO ... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though. Turbo is claimed to be faster than Cracker 2 though sometimes isn't noticeably so.

PLUSES • MINUSES

- ▲ Can cope with very complex formulae
- ▲ Flexible screen format defined by the user
- ▲ On-screen prompts are very clear
- ▲ Graphs/charts can be automatically produced
- ▼ Documentation is large, but obscure and confusing
- ▼ You've got to do a lot of work just to get started
- ▼ Very complex for quick, simple applications
- ▼ Needs some programming skills to get the most out of it
- ▼ Free workspace is on the small side (17k) although memory is used efficiently

Powerful

SCRATCHPAD PLUS

£59.99 • Caxton • 01-251 9494

If you want a traditional spreadsheet, ScratchPad Plus has most of the features you could want and more. Using "virtual memory" means you can have a huge data area, and the screen can be divided into windows to view different parts at the same time. Many of the commands bear a remarkable similarity to the big business spreadsheet Lotus 1-2-3 .

PLUSES • MINUSES

- ▲ Virtual memory means you can have large spreadsheets
- ▲ Multiple windows – you can see all parts you want at once
- ▲ Good control over formatting
- ▲ Vast range of calculations possible
- ▼ Documentation sorely needs an index
- ▼ Screen prompts are cryptic; you need the manual to hand
- ▼ No provision for automatic execution from files
- ▼ No graphical output facilities

Best general buy

SUPERCALC 2

£49.95 • Amsoft/Sorcim • 091 567 3395

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus , and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. You can store sequences of commands for repetitive calculations.

PLUSES • MINUSES

- ▲ Excellent manual – sections for beginners and experts.
- ▲ Stores commands to run from files
- ▲ "Data Interchanger" allows you to transfer spreadsheet data to other applications
- ▲ Comprehensive range of calculation functions available
- ▲ Screen can be split into 2 windows
- ▼ Spreadsheet is limited by memory size
- ▼ No graphical output facilities

THE GOOD SOFTWARE FILE

SPREADSHEETS • GRAPHICS

FIRST CALC
£29.95 • Minerva Systems • 0392 37756

Touted as a quick and simple to use program for the beginner, this is nevertheless quite a powerful spreadsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly than the rest but a good value package all the same.

PLUSES • MINUSES
- ▲ A lot of program for the money
- ▲ Good tutorials with demo files
- ▲ Simple to use but reasonably sophisticated
- ▼ Not much easier to use than more powerful packages

POCKET CALCSTAR
£39.95 • Davis Rubin Associates • 0386 841181

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES • MINUSES
- ▲ Good range of mathematical calculation functions.
- ▲ Good documentation – sections for beginners and reference.
- ▲ You can preset a course of cells to visit, for form filling.
- ▲ Can be integrated with other Pocket products, eg ReportStar
- ▼ Screen size is very small – 10-15 spreadsheet rows..
- ▼ No auto-recalculate facility
- ▼ It's not very fast
- ▼ You can't type heading text etc. over adjacent columns

MULTIPLAN
£69.99 • MicroSoft/NewStar • 0277 220573

A well established package with all the features you would expect of a reasonable spreadsheet — it just lacks that something extra that recommends some of the newer ones. No support for command reading from files, or for "virtual memory". Adequate, but there are better for the money. And the manual can kill at twenty paces!

PLUSES • MINUSES
- ▲ Functions easily entered by menu selection
- ▲ Full range of features and functions
- ▲ On-screen help text is available as you go
- ▲ Sheets can be interlinked and data transferred between them
- ▼ You need a computing degree to understand the manual
- ▼ No support for automatic execution
- ▼ Workspace is limited by CP/M memory space
- ▼ Printer output a bit cumbersome

POSTAFONT
£9.95 • Independent User Group • 0242 224340

It's easy to ring the changes with the five fonts provided on this poster program because you can have either solid or hollow characters in one of six patterns. Very good value for money but best for the occasional poster producer.

PLUSES • MINUSES
- ▲ Its really good value for money.
- ▲ You can freely mix fonts and styles
- ▼ The print commands are contained in a file which you have to create yourself.
- ▼ No warning if the poster is too big for the paper.

LIGHTNING BASIC
£19.95 • CP Software • 0993 823496

A very clever add-on to normal Basic which works on three levels. The first contains all the everyday commands, whilst the second and third levels are used for designing icons, characters and sprites. There is something in it for everyone, whether an experienced Basic programmer or a beginner.

PLUSES • MINUSES
- ▲ Simple and easy to use
- ▲ Makes simple Basic programs look really professional
- ▲ Good fun to use
- ▼ Documentation can be unclear
- ▼ Printed output is coarse draft quality
- ▼ Can only cope with simple graphics

• GRAPHICS •

You can use a graphics package to create and store diagrams and drawings on disc, to be amended, adjusted or printed out at will.

There are three main types of graphics package: art, technical drawing and graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. These are made much more effective and easier to use if you have a mouse.

Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on. 9512 owners will have to buy a dot matrix printer to do all this, of course.

DR DRAW
£49.95 • Digital Research • 0635 35304

This is a drawing utility, which allows you to compose designs from circles, polygons, lines and a wide variety of shadings and styles of text. It's very cumbersome to use unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work.

PLUSES • MINUSES
- ▲ When pushed, it can produce very neat diagrams
- ▲ Good, professional manual
- ▼ You need CP/M expertise to get it installed and going
- ▼ Painfully slow screen handling
- ▼ Difficult to use by keyboard alone -- you must buy a lightpen or mouse

DR GRAPH
£49.95 • Digital Research • 0635 35304

A rather specialised package, specifically for presenting complex data in graph form. Can produce line graphs, bar charts, piecharts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graph plotter to do it justice.

PLUSES • MINUSES
- ▲ Can read data from certain spreadsheet programs (e.g.SuperCalc)
- ▲ Extensive annotation of your designs and text placing is possible
- ▲ Good, professional manual (although no mention of Amstrad specifics)
- ▲ Supports a colour graph plotter as an output device
- ▼ You need to have some CP/M expertise to get it installed and going
- ▼ There is no way of joining points by a smoothed curve

LIGHTPEN/ MOUSE ART
£79.95 or £129.95 • Electric Studio • 0462 675666

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES • MINUSES
- ▲ Light pen hardware is a simple plug-in module
- ▲ Can use freehand pen or cursor keys for accuracy
- ▲ Menu selections are easy to understand
- ▲ Full range of functions for area filling, shading and spraying
- ▲ Blocks of pixels can be moved and copied
- ▼ You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- ▼ Items on the screen are purely pixels, not distinct elements
- ▼ No positioning of items by numeric co-ordinates for accuracy.

MASTER PAINT
£19.95 • Database Software• 0625 878888

A WIMP environment graphics package (windows, icons , menus, and pointer) which will run with Kempston, AMX or Electric Studio mice. Usual facilities for drawing curved or straight lines, polygons, boxes, circles and ellipses, and a host of 'fill' patters. 'Undo' function and eraser facility, plus the ability to zoom in on a part of the picture.

PLUSES • MINUSES
- ▲ WIMP environment makes it easy to use
- ▲ Zoom function lets you fine-tune your pictures
- ▲ Good range of effects
- ▲ Undo and erase facilities
- ▼ Text fonts are boring
- ▼ Can't move large blocks with the copy function

MASTERSCAN
£69.95 • Database Software• 0625 878888

A device which clips on to your printer head and scans pictures, sending the digitised result to disc. You can then use the pictures in desktop publications or in other graphics packages, such as Master Paint. Very useful for newlsetter production but the claims for Master Scan as a low-cost fax machine are grandiose - the quality of scanned text is poor if the text is anything less than headline size.

PLUSES • MINUSES
- ▲ Simple method of getting good digitised graphics
- ▲ Suitable for all desktop publishing programs
- ▲ Contrast control useful
- ▼ Quality of scanned text is bad – no good for faxes
- ▼ Problems with illustrations containing lots of grey

COMPLEMENT FONTS & BORDERS
£12.50 • Dragonfly Designs • N/A

Although it can be used with all the main DTP packages, this latest complement disc was designed to work alongside Stop Press. The 11 fonts supplied on the disc show consistent good design and artistic flair and are easily loaded.

PLUSES • MINUSES
- ▲ The fonts provide a very professional finish.
- ▲ It is possible to rotate and reverse elements.
- ▲ Very user-friendly.
- ▼ Setting up borders tends to be difficult and time-consuming.
- ▼ Printed output could be better (but it is still above average).

SIGNWRITER
£49.95 • Wight Scientific • 01 858 2699

Offers the widest range of features of any of the poster printing programs. Signwriter provides a range of 20 fonts, some of them very imaginative. Ideal for posters.

PLUSES •MINUSES
- ▲ You can redesign fonts and design your own symbols.
- ▲ A wide range of interesting fonts is supplied
- ▼ Not very user-friendly.
- ▼ Font design is slow.

STOP PRESS
£49.99 • AMS • 0925 413501

Though touted as a DTP program, Stop Press is an excellent graphics package. Can present data in the form of graphs, pie charts etc., and has the usual range of facilities to draw and fill triangles, boxes and so on plus a very good 'zoom' option which lets you examine the effect of changes in great detail.

PLUSES • MINUSES
- ▲ Good graph drawing facilities
- ▲ Can design your own area fill patterns
- ▲ Good range of clip art, which you can modify if you wish
- ▲ Can superimpose one image on another
- ▲ Works with AMX and Kempston mice
- ▲ Is also a good DTP package
- ▼ Undoing wrongly placed text is difficult

AYE PLUS
£19.95 • CP Software • 099382 3463

The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512 ... but were afraid to ask PLUS' Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself and adapt the routines.

PLUSES • MINUSES
- ▲ Wide range of useful functions

SO

- You **don't** want to be kept fully in the know.
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▲ Can be used from BASIC, machine code, or other language
▲ The assembler source code is supplied
▲ Inexpensive
▲ Good manual
▲ CP don't mind you using their routines in programs you sell
▼ A bit long-winded to use from BASIC
▼ No easy way of loading just the routines you want

VIDI PCW

Easy to use

£99.95 • Rombo Productions • 0506 39046

A very similar package to the Electric Studio digitiser; not much to choose between the two. Rombo's works with the Fleet Street Editor, Electric Studio's with Newsdesk International.

PLUSES • MINUSES

▲ Text can be inserted from within the program
▲ 16 levels of shading
▲ Can print images to screen in defined order and time apart.
▼ Unhelpful manual

VIDEO DIGITISER

£99.95 • Electric Studio • 0462 675666

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. The result can be used as a normal graphic in any of the desktop publishing packages and can be edited, cut, etc.

PLUSES • MINUSES

▲ Automatically picks a good contrast level for the display
▲ Can store pictures for Light Pen or Mouse to work on later
▲ Can print out on a full A4 page
▼ Can't take simple TV signals – video only
▼ When used in a desktop publiscation, won't be as good as screened photographs

GRAFPAD WITH POWERCAD

£149.50 • Grafsales • 0923 43942

A system allowing both freehand and technical design via a special pen. This works from a 'digitising tablet' which takes over the functions of the keyboard and fits into the expansion port at the back of the PCW. Wide range of features including object move, ability to define symbols for future use and sophisticated zoom feature for fine adjustments. Its potential is enormous though at the price may be limited to specialist drawing office applications.

PLUSES • MINUSES

▲ Combines best of freehand and technical drawing facilities
▲ Zoom feature allows drawing in of fine details
▲ Accurate
▲ Sophisticated, professional package
▼ Expensive – not really meant for the private user

•GAMES•

ACADEMY (TAU CETI II)

£19.95 • CRL (01 533 2918) • 8000s only

The sequel to Tau Ceti. To qualify as an advanced skimmer pilot, you must complete successfully 20 missions. Blast enemy craft with your personally designed skimmer.

GRAPHICS	4/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

ARMAGEDDON MAN

£19.99 • Martech (0323 768456) • 8000s only

As Supreme Commander and world leader you have to prevent nuclear war from breaking out by preserving good diplomatic relations between the 16 member countries of the UNN. Nip conflict in the bud by providing sufficient food and resources.

GRAPHICS	4/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

BACKGAMMON

£15.95 • CP Software (099382 3463) • All PCWs

A fairly good implementation of the gambling board-game. Playing speed is easily alterable and is totally unrelated to the games level of skill control.

RANGE OF FEATURES	4/5	STRENGTH OF PLAY	3/5
GRAPHICS	4/5	DOCUMENTATION	3/5

BATMAN

£14.95 • Ocean (061-832 6633) • 8000s only

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcraft. Good range of hazards, and even a tune!

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

BLACKSTAR

£14.95 • CRL (01-533 2918) • 8000s only

A traditional text adventure with large playing area. You explore Castle Blackstar in search of a power orb.

ATMOSPHERE	4/5	INTERACTION	2/5
CHALLENGE	4/5	VALUE VERDICT	4/5

BOUNDER

£13.95 • Gremlin (0742 753423) • 8000s only

A graphics bouncing-ball game . You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	4/5

BRIAN CLOUGH'S FORTUNES

£17.95 • CDS (0302 21134) • All PCWs

A cross between Monopoly and Football Manager, combining board and PCW. Go for league and cup success – but keep the bank manager happy too!

GRAPHICS	2/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

BRIDGE PLAYER 2000

£19.95 • CP Software (099382 3463) • All PCWs

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. Claims not to cheat, even though it deals!

GRAPHICS	3/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

CATCH 23

£19.99 • Martech (0323 768456) • All PCWs

A game of exploration on an inhospitable island which has been taken over by the military. Your task is to locate the 'most secret military complex on earth' and escape with the design of their most deadly weapon.

GRAPHICS	4/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

CLOCK CHESS 88

£15.95 • CP Software (0993 823643) • All PCWs

One of the better PCW chess programs. You can alter the level of play by specifying a time limit. Capable of very strong play and the 3D graphics are excellent.

GRAPHICS	3/5	STRENGTH OF PLAY	5/5
RANGE OF FEATURES	5/5	VALUE VERDICT	5/5

COLOSSUS CHESS 4.0

£15.95 • CDS Software (0302 21134) • All PCWs

A very strong chess game which manages to use time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	3/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

CYRUS II CHESS

£15.95 • Amsoft (0277 230222) • All PCWs

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

GRAPHICS	5/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

DOUBLE T PATIENCE

£17.95 • Thurston Techniques (0395 277496) • All PCWs

Six well-known card games (from Poker Patience to Pairs) to be played either alone or against the computer.

GRAPHICS	2/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

DRAUGHTS

£15.95 • CP Software (0993 82 3463) • All PCWs

A merciless opponent, this game is capable of very strong play. The playing board is shown in 3D perspective,but there is no clock to limit time on moves. You can set level of difficulty.

GRAPHICS	4/5	STRENGTH OF PLAY	5/5
RANGE OF FEATURES	3/5	VALUE VERDICT	4/5

FAIRLIGHT

£14.95 • The Edge (01-831 1801) • All PCWs

Fine 3-D graphic adventure with similar screen display to Batman. You explore a castle prison, battle with numerous enemies and solve puzzles.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

GNOME RANGER

£14.95 • Level 9 (0344 487597) • All PCWs

You follow the adventures of Ingrid Bottomlow, the intrepid gnome, through a fairy tale landscape full of compelling puzzles. Humorous and rather quaint.

ATMOSPHERE	3/5	INTERACTION	3/5
CHALLENGE	3/5	VALUE VERDICT	4/5

GUILD OF THIEVES

£24.95 • Rainbird (01-240 8838) • 8000s only

To join the select Guild of Thieves in Kerovnia, you first have to show your worth by fleecing an island of all its treasures. An excellent adventure!

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	5/5

HEAD COACH

£15.95 • Coda (01-789 9551) • All PCWs

You coach an American Football team, picking players and deciding tactics against real NFL teams and players. Incredibly detailed simulation – a must for NFL fans!

ATMOSPHERE	4/5	INTERACTION	5/5
CHALLENGE	4/5	VALUE VERDICT	4/5

THE GOOD SOFTWARE FILE

GAMES

HEAD OVER HEELS
£14.95 • Ocean (061 832 6633) • 8000s only

A superlative, compulsive 3D arcade adventure where you control either Head or Heels. Escape from Castle Blacktooth and free the Empire's enslaved planets.

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	5/5	VALUE VERDICT	5/5

HITCH-HIKERS' GUIDE
£24.95 • Comsoft (0890 2854) • All PCWs

In many people's minds, the best adventure program ever written. Based on Douglas Adams' series, it is ingenious, hilarious and mind-boggling. A must!

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

JINXSTER
£24.95 • Rainbird (01 631 5373) • All PCWs

This one's all about saving the civilisation of a place called Aquitania from the wicked Green Witches. All you have to do is find and reassemble a magic bracelet and redirect its errant powers. A very atmospheric game.

ATMOSPHERE	5/5	CHALLENGE	5/5
INTERACTION	4/5	VALUE VERDICT	4/5

KNIGHT ORC
£19.95 • Level 9 (01-631 5373) • All PCWs

You are an orc in this typical Level 9 adventure by the name of Gridleguts. An addictive game with lots of action, plenty to explore and mind-bending puzzles.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

LANCELOT
£14.95 • Mandarin/Level 9 (0625 878888) All PCWs

A game in three parts which recounts the adventures of Lancelot.. Manufacturers have vividly created an Arthurian world in which points are awarded for displays of chivalry, valour or benevolence. The game permits a full range of powerful commands.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	4/5	VALUE VERDICT	5/5

LEATHER GODDESSES OF PHOBOS
£24.95 • Comsoft (0890 2854) • All PCWs

Lascivious, licentious and lewd – definitely not for feminists! An excellent adventure game, spoofing both sci-fi and Soho.With 3D scratch'n'sniff card!

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

LORD OF THE RINGS
£19.95 • Melbourne Ho. (01 221 6850) • All PCWs

Excellent adaptation of the Tolkien classic. You take the role of Frodo or one of his group, and rove through Middle Earth meeting balrogs, orcs, wargs and all.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

LURKING HORROR
£24.95 • Activision (01-431 1101/2992) • All PCWs

Something nasty is lurking down in the bowels of the George Edwards Institute of Technology – find it before it finds you! Another great game from Infocom.

ATMOSPHERE	4/5	INTERACTION	4/5
CHALLENGE	3/5	VALUE VERDICT	4/5

MATCHDAY II
£14.95 • Ocean (061 832 6633)• All PCWs

Excellent football simulation game with superb graphics. Tackling and jumping ,volleying and heading etc. Play against the computer or against a friend.

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	5/5	VALUEVERDICT	5/5

MINDFIGHTER
£24.99 • Abstract Concepts/Activision (01 431 1101) • 8000s only

An adventure game set in post-holocaust Southampton. Hero is a psychic 11 year old boy who can change himself into all different kinds of animals. and who has accidentally projected himself into the future. It's up to him to change the course of events and prevent nuclear war.

ATMOSPHERE	5/5	INTERACTION	3/5
CHALLENGE	5/5	VALUE VERDICT	4/5

THE PAWN
£24.95 • Rainbird (01-240 8838) • All PCWs

An excellent adventure with dozens of superb screen illustrations, zany characters and a host of baffling puzzles. Will keep you entranced for hours.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

RETURN TO DOOM
£12.95 • Topologika (0733 244682) • All PCWs

Sequel to Countdown to Doom; you're back on the planet Doomawangera again to track down the ambassador Regina who has been kidnapped by some very unpleasant robots. Another text-only adventure game.

ATMOSPHERE	3/5	INTERACTION	2/5
CHALLENGE	4/5	VALUE VERDICT	4/5

SILICON DREAMS
£19.95 • Rainbird (01-240 8838) • All PCWs

A trilogy of intriguing adventure games. You are secret agent Kim Kimberley saving Snowball 9 from almost certain doom! With a humorous novella.

ATMOSPHERE	4/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	4/5

SCRABBLE
£19.95 • Virgin Leisure (01-727 8070) • All PCWs

Excellent implementation of the famous game. 1 to 4 people can play the computer, which knows a fair few obscure words. Good graphical display. Eight levels of difficulty, and the top level scores 350 or so regularly, so you have to be on top form!

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

SORCEROR
£24.95 • Activision (01-431 1101/2992) • All PCWs

Enter the world of necromancy and sorcery courtesy of another intriguing and mind bending adventure game from Infocom.You have to find out the correct spells which will locate your missing master, Belboz.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	4/5

STARGLIDER
£24.95 • Rainbird (01-240 8838) • 8000s only

A sophisticated shoot-'em-up with 3D vector graphics and a dose of strategy too. Your task is to save Novenia, helped by a complex playing guide.

GRAPHICS	5/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

STATIONFALL
£24.95 • Activision (01-431 1101/2992) • All PCWs

Sequel to Planetfall. You explore a space station with your chums Floyd and the philosophical robot Plato. Usual Infocom standards –a great sci-fi adventure, a mix of 2001 and Star Trek!

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	4/5

STEVE DAVIS SNOOKER
£14.95 • CDS (0302 21134) • All PCWs

Surprisingly realistic simulation of both pool and snooker games – not as easy as it looks either!. Foul shots, breaks etc. and allows for spin, side, strength of shot. Good value, despite all the balls being greens!

GRAPHICS	2/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	3/5

STRIKE FORCE HARRIER
£19.95 • Mirrorsoft (01-377 4645) • 8000s only

A combat simulation of a Hawker Harrier, designed in conjunction with British Aerospace. Very detailed and realistic but you'll need to put in a few hours with the manual to get off the ground.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	3/5

TIME AND MAGIK
£14.95 • Mandarin Software (0625 879920) • All PCWs

An excellent trilogy of time travel adventure which can be played in any order. Your task is to protect the history of the world from the destructive timelords –another very atmospheric game.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	5/5

TETRIS
£19.99• Mirrorsoft (01-377 4837) • 8000s only

You fit together bricks of various shapes that drop out of the sky at the bottom of the screen. The better the fit, the higher your score. One of those ridiculously simple ideas which is very addictive!

GRAPHICS	3/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

TOMAHAWK
£19.95 • Digital Int. (0276 684959) • All PCWs

A sophisticated Apache helicopter flight simulator. Impressive cockpit view graphics as you engage in combat missions – can be used with a joystick too.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

NEXT MONTH

The guide continues next month with the categories of WORDPROCESSORS, ACCOUNTS/ PAYROLL, UTILITY and DTP. The month after that will cover DATABASES, EDUCATION and COMMUNICATIONS software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

8000 PLUS SMALL ADS!

YOUR PCW CAN BE A GOLD MINE Make as little or as much as you want. No gimmicks. Genuine opportunity won't be repeated, - only serious enquiries need apply send £1.00 + S.A.E. T. Blake, 26 Riverside Walk, Little Neston, South Wirral. L64 0TT.

TAXI, PRIVATE HIRE, MINIBUS OPERATORS' DATABASE. Banishes those searches through old diaries for quotation material. Simple to use. £14.95 - M.C.S, 49 Cogate Road, Paddock Wood, Kent, TN12 6UD (089283) 3056.

LINEBACKER. AMERICAN FOOTBALL ON YOUR PCW. Graphic display, one or two players, call the plays, statistics. £9.99 or details from: WADD SOFT 227 Church Road, St. Annes, Lancs. FY8 3NN.

PCW 9512 NINE MONTHS OLD extras include acoustic hood, second disc drive, dust covers, daisy wheels, ribbon, twenty discs, business software. Genuine Reason for sale. £600 O.N.O Leamington Spa 0926 831074.

STARTRACK Stimulating unique graphic astronomy program for PCW's. Identify 88 constellations, 600 stars, anywhere, anytime; magnitudes; test yourself; lots more. £14.95. Details Discovery Software, 262 Regents Park Road. London N3 3HN.

MOLESEY EDUCATION 01-941 1364 PCW 8256/512 & 9512 TRAINING Locoscript 1 & 2 Locofile Locomail etc. Qualified experienced teachers. Will travel to your home or office 'Weekdays / Weekends', reasonable rates, free after service backup.

PCW8512 FOR SALE: Locoscript 2 Locospell Sagesoft Accounts plus and retrieve stoppress mouse, mini office all accessories £550 O.N.O Telephone 01 644 5207 or 01 385 7956. Ask for Mr Newman.

WORDPROCESSING SERVICE! Need help with theses manuscripts dissertations or reports? All work considered contact Sally Barnett, Bristol (0272) 604362 After 6.30pm very competitive rates, estimates given.

SAGE ACCOUNTS FOR THE NOVICE BOOKKEEPER. Complementary manual to make life easier! PCW but helpful to all computer users. Visa/ Access accepted £7.50 (0734) 700512 Harvey, 6 Westlyn Road, Pamberheath, Basingstoke.RG26 6DT.

CUSTOMISED CLIP-ART FOR STOPPRESS, FSE+, NewsDesk, The DTP or Trojan (state which). Send images (printed or VHS), plus £8.00 per FIVE, plus return postage. Omega Software, Box 21, Shepperton, Middlesex, TW17 8BY.

PCW 9512 FIVE MONTHS OLD mint condition bought in error upgrade to PC1640 explains sale. Extended guarantee from shop where purchased to June 91 £485.00 includes some software. Phone 0572 813411.

DISK TRANSFER SERVICE - PCW/ CPC to and from other CP/M computers, IBM and some BBC. Details (sae please) from MAPEJ, 32 Carew Road, Mitcham, Surrey, CR4 2JH. Tel: 01-640 7676.

THE BEST OF THE PUBLIC DOMAIN: Guaranteed to run on the Amstrad PCW 8000 series. Small copying fee. SAE for list. PCW Software Library, 11, Older Way, Angmering, Sussex, BN16 4HQ.

PCW FILE - INTERNATIONAL USER GROUP free '20' Disc PD Library when you join! Monthly magazine £18.00 for 12 issues £1.50 To: 11 Havenview Road, Seaton, Devon EX12 2PF Tel:(0297) 20456.

GRAPHICS DISC'S 1 & 2, FOR: Fleet Street Editor, Stop Press, Database's D.T.P. or Newsdesk International, with well over 100 graphics for only £12.50 per disc, or £22.00 for CF2/DD Disc with both Discs on one. Send Cheque with version and disc number required to: M.G.D 7 Waverley Park, Great Shelford, Cambridge, CB2 5BA. For more information send S.A.E. state version.

BOURNEMOUTH. Enjoy your PCW fully. Christmas/Winter Special offer (Free Lesson included.) Word Processing, Keyboarding, electronic Typewriter/Audio tuition. qualified teachers. Your machines or ours. Individual/ Small group. Anytime, 0202-516197.

NOW YOU CAN MACHINE-INK your own nylon ribbon cassettes. Hand-operated £69.50. Electric £109.50. Colour by arrangement. Full back-up. ALADDINK (Dept 80+), Eyemouth, Berwickshire TD14 5AP. Tel: 08907 50965.

ULTIMATE QUIZ - the best educational quiz game for the PCW. Complete with 5 quizzes and question editor. Only £14.95 inc P&P or £4.95 for the demo disc. (Refundable) DGC. 37 Falkland Road, Bradford. BD10 0JT.

"STOP PRESS" / "DTP" Clip Art (Specify which). Over 50 high quality individually filed pieces with index! Send £3.95 blank disc and SAE: "Orgone Systems", 26 Lilymead Avenue, Knowle, Bristol, BS4 2BX.

DO YOU NEED A SPECIAL PROGRAM FOR YOUR PCW. Programs written to suit. Vertical software a speciality. Write/Phone Martin Evans, Pentre-Gwyn, Ty'n-y-cefn, Corwen Clwyd LL21 0ER. Tel: 0490 2902.

PCW 8512 WITH LOCOSCRIPT II, Sage Retrieve, Dr Graph, Colossus Chess 4.0 and Tomahawk, (including Joystick). Little used. £300 Telephone 01-720-6631 evenings.

PREPARATION FOR RSA WP EXAMS stage I - III: includes question paper, marking, analysis, disc with recall tasks, worked examples - by RSA chief examiner. SAE:- MOTS, 93 High Street, Marshfield, Chippenham, Wilts. SN14 8LT.

PCW 8512 8 MONTHS OLD excellent condition manual, dust covers mini office professional unwanted present £399.00 Tel: 0480 66673 - 22 Cam Close St Ives Cambridge.

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PCW 8512 PLUS PROTEXT, money manager mini office etc write to T.Feldberg, 25 Hylda Court, St Albans Road, LONDON NW5 1RE or Tel: 01-267-2577 £340.

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This section of the magazine offers you the chance to speak directly to the huge waiting world of PCW owners.

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One thing you CAN'T advertise is the sale of swap of software you've purchased. Such ads can be misused by software pirates.

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SPEC

BACK ISSUES

We have limited quantities of the back issues listed below. The prices include a nominal 25p postage. All issues contain excellent TipOff sections and a selection of BASIC listings, plus the other regulars. Don't miss the chance to expand your collection!

Issues 1-6 SOLD OUT

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Issue 26 £1.75 LocoFile exclusive preview BASIC wallchart PCW portable preview Disc doctor LocoScript books Devpac 80 2 **Order Code 80026**

Issue 27 £1.75 Locomail wallchart Prestel Assembler DIY software Loco 2 vs Mini Office **Order Code 80027**

AL OFFERS

THE 8000 PLUS SPECIAL OFFERS SECTION

Welcome to the new-style 8000 Plus Special Offers section. As ever, our intention is to bring you the best selected products in the marketplace - products which for various reasons are often hard to obtain in the shops. Rest assured, however, that to qualify for the Special Offers section the product has to have been successfully reviewed in the magazine. In some cases, such as DTP and LocoScript books, we have chosen from a plethora of titles the one which we believe offers the best features and represents the best value for money.

Scan these pages at your leisure. Not only are many of the items hard to obtain, but we usually manage to offer you them at less than the full recommended retail price and we carry stocks. If you call (0458) 74011 or fill in the Order Form on the left hand page, you'll usually get your goods within three working days of ordering (although some items - highlighter pens! - do run out of stock and can be hard to obtain so please allow 28 days for delivery in such cases).

If you have any queries contact Christine Stacey or Sarah Richards on (0458) 74011.

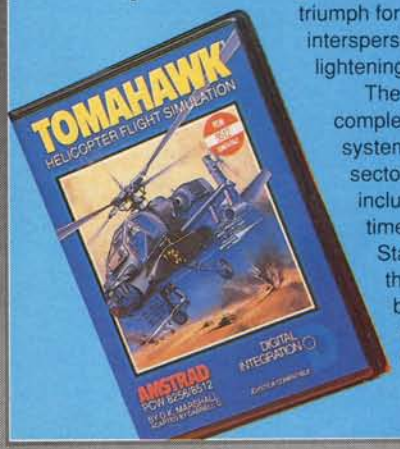
9512 software:
The following titles do not run on the 9512: Distractions; Academy

TOMAHAWK

Only £14.95 (RRP £19.95)

PICK OF THE MONTH!

'A good deal of thought and planning has gone into this game and it shows', was what our reviewer said of this 3D wire graphic arcade strategy game in issue 25 of *8000 Plus*. Martech's first PCW game is something of a quiet triumph for intelligent gameplay interspersed with furious action requiring lightening-fast reactions at key points.



The basic aim is to enter a military complex and get out with a laser system blueprint. You have 14 sectors to explore, and weapons include detonators, bombs and timers. The vector graphics - *a la* Starglider - involve you in a thoughtful game which offers the best new PCW entertainment for many a long winters night.

Order Code 8043

DISTRACTIONS

Just £9.95 (RRP £19.95)

Wow! Three games on this compilation disk, which makes each one cost £3.30 each. It's not just value for money though, because the games themselves were written by Design Design and feature three great program ideas. NEXOR is a superior 3D isometric graphics strategy game, 2112 AD an icon-driven arcade adventure and On The Run is a super-fast all-action maze game.

Altogether you're getting three intelligently-written graphic arcade games with a strong strategy element ensuring that they remain playable and interesting for more than the time it takes to master the initial 'shoot to kill' element. Which is why it's called Distractions!

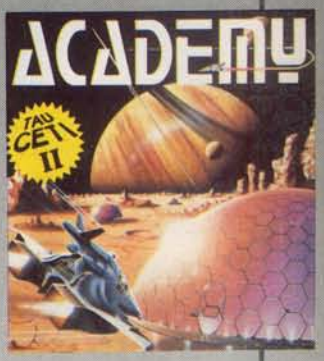
Order Code 8047

ACADEMY

£12.95 (RRP £19.95)

A brilliant sequel to the ground-breaking space exploration game Tau Ceti. In Academy you must complete 20 missions, grouped in five levels of four; combat skills and environmental understanding mean must both be completed to succeed. Graphics and control factors have been heightened to push computer gaming to a completely fresh level. You won't be disappointed!

Order Code 8035



CATCH 23

Just £14.95 (RRP £19.95)

'A good deal of thought and planning has gone into this game and it shows', was what our reviewer said of this 3D wire graphic arcade strategy game in issue 25 of *8000 Plus*. The aim is to enter a military complex and get out with a laser system blueprint. There are 14 sectors, and the vector graphics - *a la* Starglider - involve you in the best PCW romp for many a long winters night. **Order Code 8043**

LIVING DAYLIGHTS

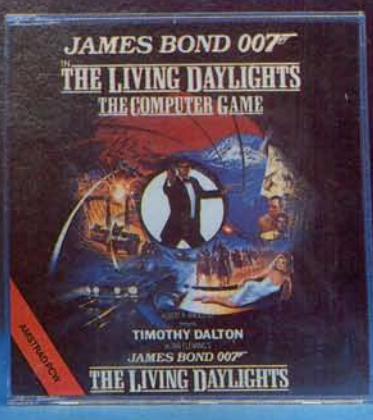
Just £9.95 (RRP £14.95)

'A demanding game with plenty of action' was the verdict on the officially licenced computer game of the James Bond film starring Timothy Dalton.

The game, based on the film and the coin-op arcade game by Arcadia, features eight levels, each in a different location, in which your responses must be lightning-quick in order to survive. Gameplay involves standard shoot-'em-up left/right/up/down/fire, with weapons including bazookas, grenades, missile-firing pens, crossbows and a ghetto blaster!

A game for those that like their games in the 'just one more go' adrenalin rush category!

Order Code 8046



SPECIAL OF

LOCOFILE

£29.95 plus Locoscript II wall chart and highlighter pens

'It's difficult to think of any LocoScripters who wouldn't find LocoFile useful', was Rob Ainsley's conclusion when he previewed Locomotive's new database in issue 26 of 8000 Plus.

The fact is, a database which can be accessed from inside LocoScript II and is fully compatible with LocoMail is a brilliantly logical idea. Locomotives usual panache comes to the fore in the feel of the program too. Essentially an easy to use card index, LocoFile features flexible indexing, fast lookup, efficient use of disc space and is suitable for any PCW (plus three hard disc drives).

Features include:

- Look up or change card details from within LocoScript
- CUT and PASTE to and from LocoScript
- Use up to eight indexes at once - alphabetic or numeric
- Cards up to 99 lines by 80 columns wide
- Up to 50 items per card
- Holds 1,000 names and addresses on a 706K disc
- No limit to number of entries on hard disc
- Add or delete fields, change card size at any stage
- Fully two-way compatible with Loco Mail

For all LocoScript 2 users who want an expandable suite of applications, Locomotive is providing the answer without ever having to boot up CP/M! LocoFile provides the classic easy-to-use environment familiar to LocoScript users and has all the hallmarks of a major software launch. Sighs of relief all round!

Order Code 8044 (8256 version)
8048 (9512 version)

FREE!
With your copy of LocoFile
- LocoScript 2 full colour wall chart
- Set of three highlighter pens

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For £1.50 you get green, red and yellow 8000 Plus-stamped pens in a clear plastic wallet.
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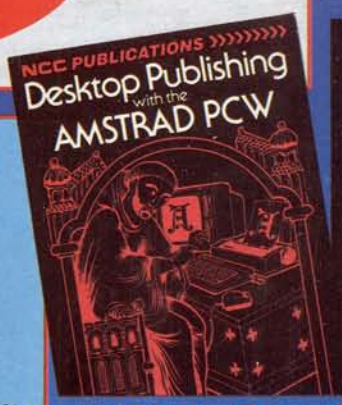
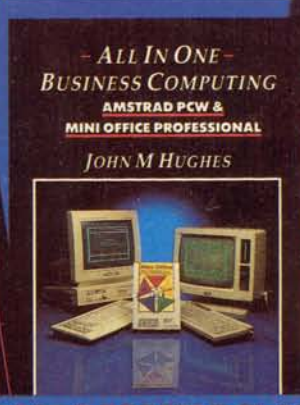
MINI OFFICE PROFESSIONAL

Only £23.95 (RRP £29.95)

An incredible value-for-money integrated package combining database, spreadsheet, word processor, comms and graphics function, Mini Office combines features often not included in software three times the price: sideways spreadsheets, full database sorting, Prestel compatibility and extremely fast word-processing including a word counter.

In one package, this does just about everything it's possible to do on a PCW – if you want to break free of LocoScript, this amazing value program is for you.
Order Code 8011





DESKTOP PUBLISHING WITH THE AMSTRAD PCW

Only £8.50!

Your PCW is a powerful desktop publishing tool - with it you can print everything from newsletters to posters. With the right software for your needs the options open up your computer as a handy way of earning your living. Mike Milan looks at all possibilities. He leaves the actual choice of software up to you, and discusses page layout, reproduction methods, printers, fonts, trim marks, photo layouts - all in a heartening prose.
Order Code 8035

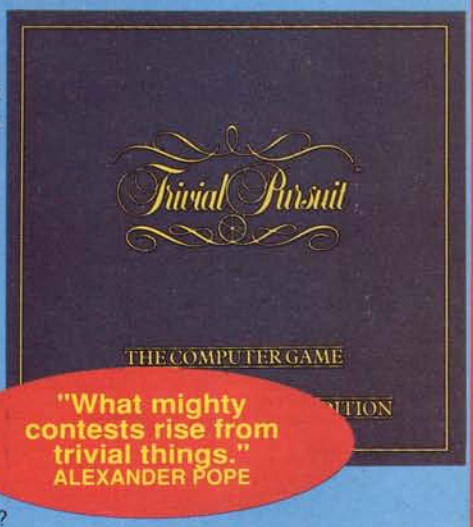
FERS

TRIVIAL PURSUIT

Just £14.95 (RRP £19.95)

The worlds most popular board game has been revamped for the PCW. This Domark version features tunes (played backwards!) and graphics-based questions, as well as a new cartoon character in the form of TP who introduces the questions.

Over 3,000 questions are included. Many are new and ensure that this version contains an entirely novel flavour whilst maintaining the essential fun of the original. So now's your opportunity to try and answer the worlds most intriguing questions! These include: Which members of the Royal Family can vote? Do frozen peas float? What is Desperate Dan's favourite food?



Here's your chance to have fun and learn something at the same time!

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ALL IN ONE BUSINESS COMPUTING:

AMSTRAD PCW AND MINI OFFICE PROFESSIONAL

£11.95 • Sigma Press

Mini Office is an integrated package, and Hughes shows more clearly than the manual how each module works together. Detailed explanations abound, with four chapters on word processing, three on comms, two on the database and spreadsheet and one on the graphics module.

With this book you may never need any other software for your PCW!

Order Code 8042

FREE!

20 3 inch disk labels in four colours are included free when you order the Mini Office book through these pages

LOCOSCRIPT 2 & AMSTRAD PCW'S

£11.95 • Locomotive Software

Whether you're an 8256 or 8512 user converting from LocoScript 1, or a brand new 9512 owner, this will tell you all you need to know. It covers the basics of layouts and tabs, LocoMail and LocoSpell, alternative printers and even gives you an introduction to the world of CP/M. If you find the Amstrad manual a bit daunting, then this is for you!

Order code 8036

FREE

Copy of Locoscript II wallchart included with this book

SUBSCRIPTION OFFER

Question: How do you add an extra thousand bits to your 8-bit PCW?

Answer: Subscribe to 8000 Plus and you're nearly there!

There's no doubt about it. A full 12 issues of 8000 Plus AND a gift pack consisting of The 8000 Plus Software Collection (see box below), blank 3 inch disk and pack of disk labels - all for £17.95 - is incredible value for money. Take out a year's subscription and you are assured of the latest information about what's happening in the PCW market, with editorial covering the whole market from typewriters to programming. No wonder 8000 Plus has one of the highest percentages of postal subscribers of any magazine in the UK.

But it doesn't end there. As soon as you send in your completed Order Form we'll send you your free gift pack - a copy of the first-ever8000 Plus Software Collection (RRP £7.95), a blank CF2 disc (in a proper plastic case!) worth £2.50 *plus* a packet of 8000 Plus disk labels. Which means your magazine sent regularly to your home address in advance of the street date, plus more than £11 of goods.

No other magazine would be so foolish! But at the end of the day, rest assured that you will be getting the best coverage of the PCW market you can find. No one does it better because no one cares as much!

Order Code 81100

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1. **The 8000 Plus Software Collection (RRP £7.95)**
   More than 30 crucial files for your PCW
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   Micro Interface disk made in Japan with a hard plastic cover
3. **Set of disk labels (RRP £1.00)**
   Colour-coded 8000 Plus 3 inch disk labels

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Just £7.95

The first-ever 8000 Plus software production comes in a single 3 inch disc with includes more than 30 files of listings, Tip-Offs, examples for tutorials (eg Mini Office spreadsheets) and jokes! And that's just on Side One! On Side Two there are two public domain programs - a full screen editor and a text editor, both CP/M programs which would costs several pounds on their own. So you could say the 8000 Plus Software Collection offers rather a lot of value for your money.

If you would like to order the program with a subscription, quote Order Code 81100. If you just want the program on its own (at a price of £7.95) then quote Order Code **81101.**

SPECIAL OFFERS

8000 PLUS

STOP PRESS

Only £74.99 (RRP £89.99)

There are sensible fonts
AND THERE ARE EXOTIC FONTS
And of course the statutory Old English font
So Whatever You Want You will find
One to Suit -
And if it doesn't quite fit you can tip it
Or else Stretch it to fit

▲ 'Just some of the fonts available on AMS' *Stop Press*'

Desktop publishing – doing page makeup on your computer instead of the old cut-and-paste method – is the boom area of home computing. All the national dailies are switching over to DTP methods – and so are thousands of PCW owners, to produce newsletters and flyers.

Want to try your hand? The best developed DTP package for the Amstrad PCW range is now available from Future Publishing at an all-in price of £74.99. Stop Press's incredibly versatile and powerful software plus mouse will turn your PCW into a DTP machine.

The Swiss-made mouse is probably the best currently available and offers high resolution movement all over the screen. The software makes the best possible use of this sensitivity, featuring as it does a wide range of DTP facilities which would probably cost three times as much on higher-priced computers.

Just a few of the features are: -

- **14** different fonts supplied
- Type sizes from **9 to 96 points**
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- **9512 compatible** using an Epson compatible dot matrix printer

Altogether, this is a superb way of getting to grips with DTP. We don't expect to offer any other DTP package through these pages again, because we've held back until we were absolutely sure that this was the best deal. So here's your chance to get going.

Save £15 on the manufacturer's recommended retail price by placing an order with our mail order department (telephone 0458 74011)!

Newsletters, fanzines, posters, letter heads, leaflets, charts, graphic business reports, flyers... all are now within reach, allowing your imagination as much freedom as possible. And with Stop Press there's no better way into the world of DTP.

Order Code 8023

POST SCRIPT

A quagmire of quibbles, questions and quips quoted by a quixotic Ed.

Yes, it's Q this month, and you can join one – of the PCW owners who write to PostScript. Thought- and sleep-provoking letters on all topics related and unrelated to the PCW. This month sees the return of the Disc Case Debate, Wobbly Screens, Photo filing and another bunch of international correspondence. Send your letters to *PostScript, 4 Queen St, Bath, BA1 1EJ.*

Age of Reason

Your dismissal of GK Armstrong's plea for the hard perspex cases for individual CF-2 discs, reeks of juvenile arrogance. The "What is good for me must also be fine for everyone else" syndrome of the over-confident 'kiddywink' whether they're underkill, overkill or even superkill: I WANT INDIVIDUAL HARD PERSPEX CASES for my CF-2 discs. I work, as probably do many PCW owners in a small, dust producing dwelling with very limited provision of working surface area. And my inquisitive and meddling AGP clambers all over the place; and I wouldn't limit his charm-producing freedom for all the CF-2s in 'Technidom'. I find it much more convenient and better for my very limited number of private-user CF-2s to have the 3 or 4 discs in use, alongside my PCW in those small, individual cases. I much prefer to have those two drive surfaces and the edge aperture on the naked CF-2s, dust and finger-smear protected. So get off your Rocking Horse, junior and do something to provide we older and wiser PCW owners with those cases. Throw your PCW through the window and buy one with legs. You could probably order one with special in-between 'trim'. Then send me about 25 of your spare cases, if you can't persuade the manufacturer to make and market them again.

K Bright
Harlow

***8000* PLUS** *bllbbgh splgh blb gagaga disc cases ghoo ghoo ghbghbgh still not necessary phrphrlghl mammammam dadadad silly old phrllgh gurgle blb*

Discussion

I must respond to Mr Fisher's response on Mr G K Armstrong's letter about disc cases in issue 27.

I feel that Mr Fisher has missed the point completely. Most users know that 3" disks are more robust than their counterparts. The point is that the packaging has changed to save Amstrad money (did we see a decrease in cost – no!) and cause many users inconvenience. If you were to use the excellent disc labelling listing published in issue 11 of 8000 Plus then you would know how useful the library cases were. Not only could one see at a glance what was on each disc, one could keep the disc cases and labels much cleaner. Believe it or not, some people like to keep their possessions as new as possible.

Mr Fisher should not presume what the consumer should put up with unless he has carried out an extensive survey of consumers' preferences. All the dealers I phoned (that is all the ones listed in your magazine) agreed that many customers were not pleased with the new style packaging. In fact, I ordered 100 blank disk cases from Kador, which I sent back due to their second hand appearance.

Mr Young at Kador regretted this, but found that damaged cased were all that his suppliers would or could send him. He agreed that there is a market for these cases. Someone please import them from Japan!

On the whole, Mr Fisher normally talks sense and I have found Locomotive to be an extremely helpful software company. It is a shame that they do not manufacture hardware, then none of us would have to hear the Amstrad battle cry 'NO COMMENT'.

So, on the whole, Locomotive and 8000 Plus have contributed a great deal to the PCW user and to Mr Sugar's bank account, but please listen to all your followers, even though their preferences do not fall in with yours.

Incidentally Mr Armstrong's request for suppliers of the disc cases was not met.

B Lear
Melbourn

X ray ayes

Your article about LocoFile and a small reference to the damage that can be done to data discs by electromagnetic radiation prompts me to pass on my observations which might help to allay people's worries.

In my work I use a small X ray machine many times a day. I have owned a PCW for 4 years now (since the Autumn of their release) and it sits switched on all day and every day right next to my X ray machine.

I have not had a single case of corrupted data during that time; indeed, when I first discovered that X rays might damage a disc, I placed one at the end of the tube, in the line of fire, and discharged it. Not only was there no corruption but the disc still operates today, some two years later, with the same LocoScript software that writes this letter.

G Headley
London

"SO THAT'S WHERE THE MISSING ADDRESS MARK IS"

***8000* PLUS** *But the burning question is, was this with the disc cases on or off???*

More discussion

Amstrad and I are indulging in some correspondence. At least we were until my last letter. They are truculent – I am bitter. I like the plastic covers on their CF2 discs. They have cut them out to save costs. I accuse them of profiteering and ignoring customer needs. They say my argument has no sound ground. Wildings, my supplier, says that other customers are upset.

I cannot agree that the new thin cardboard cover is protective enough for hard wear and tear. Amstrad say it is.

What do other readers think? If they disagree, would they too write to Amstrad?

Dudley Littleton
London

***8000* PLUS** *OK OK, I give in! Sorry if my reply was misinterpreted – it was meant to be a reassurance to Mr A that cases aren't necessary, so that he needn't worry. We've dug up a few addresses of disc case suppliers on page 3 for you. And please everyone, don't blame us or Locomotive for Amstrad's decisions!*

Lovely Finnish

The new version of Fleet Street Editor is a decided improvement on the old, but there are still numerous bugs left in it from before. (A list of ten of them is attached).

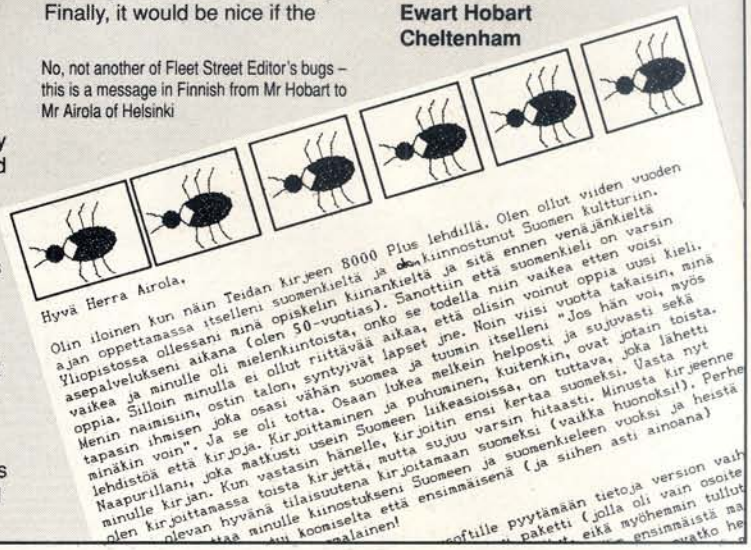
However there are pluses to FSE. I have bought Stop Press and would agree that the graphics aspect is splendid. It is ideally suited to producing things like posters and such, but I would hate to have to use it to produce something with a lot of text. You almost always seem to need to lengthen, shorten or otherwise alter the text once you see it on the page. With FSE this was possible with the old version and is quite easy in the new. This letter has been quite heavily edited on the page. The ability to use A5 paper is something else that FSE has and Stop Press lacks.

As your correspondent Herra Airola would tell you, he needs something which FSE has and Stop Press at least, does not – the capability of producing the letters ä and ö in all typefaces.

In other words, Mirrorsoft potentially have a very good, very useful program, if only they would make the effort to do a thorough job of debugging. If I, as a mere user, with limited time, can manage to identify so many bugs in a day or two, why cannot the professionals do the same and better. Why, indeed, was the program let out in the state that it was an then let out again as it is now? The must also accept the need to talk to users. If they had just "Yes, we know there are bugs and are working on it" they would have been spared my letter in your magazine and the consequent strengthening of the warning in your software listing. Finally, it would be nice if the "good fairy" could go international and also send Herra Airola a present to improve Anglo-Finnish relations a little.

Ewart Hobart
Cheltenham

No, not another of Fleet Street Editor's bugs – this is a message in Finnish from Mr Hobart to Mr Airola of Helsinki



Green piece

May I congratulate you on your editorial last month. The value of each individual's contribution to matters Green (if you will forgive the jargon) cannot be over-emphasised. Several thousand people doing a small thing makes it a big one, and if ordinary, relatively sensible people like you, me and your readers won't do anything then why should the Government bother? All forms of paper – magazines, newspapers, junk mail, cardboard etc can be taken to wastepaper dealers. For small organisations this can turn into a useful if labour intensive fund raiser. Computer paper in particular fetches a very good price.

In my own (admittedly still paper based) office, a plastic bag for this purpose has long replaced the wastepaper basket; junk mail is searched for letters with blank backs that can be used for notes, memos, file copies of original letters etc, and the file copies of reply letters are printed on the backs of the original enquiry letter; this not only saves paper, it saves considerable filing space. None of this is trivial, it's vital.

Roger Taylor
Wirral

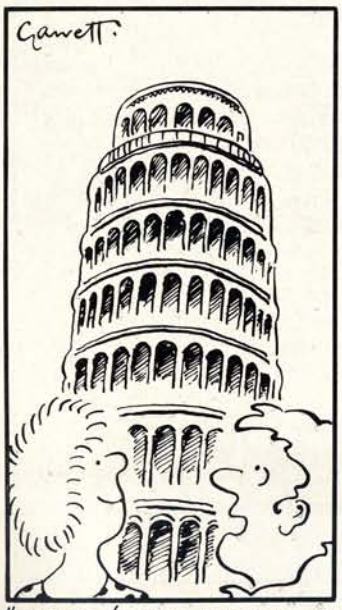
***8000* PLUS** *Hear hear. All waste paper at Future goes into a bin for the Friends of Earth to recycle – one small way of atoning for the vast quantities of paper we consume.*

Recycled fanfold continuous paper is available from Traidcraft plc, Kingsway, Gateshead, Tyne & Wear NE11 0NE. (We'd be glad to hear of any other suppliers).

Spies in the City tell me of a curious virus that has appeared on PCs. When you try to print anything, a message flashes on the screen saying 'Think of the trees!! Continue (y/n)?'. The longer the document, the more times you have to press Y to continue the printing.

Straight faces

I was interested to read John Nash's skewed display in December's PostScript as my husband's computer 'displayed' the same symptoms (we are a two PCW household). By applying the first principle of technology "twiddle all the knobs before attempting major surgery" the screen straightened up after manipulation of the Horizontal Hold button at the lower rear of the machine. This knob is actually inside the casing but there is a small hole through which a fine screwdriver can be poked, failing that it can be got at by removing the casing. I can't guarantee that this will solve John Nash's problem but it may be of use to other readers.



"WHY DON'T THEY JUST USE THE HORIZONTAL HOLD CONTROL"

Kate Daniel
Portsmouth

New zeal land

Oh cripes, I've upset VA Hartland (PostScript last month). I'm sorry, though on re-reading my previous letter, I feel s/he's making a bit more of it than there really is. Still, it is quite true that there are other suppliers of PD software for the PCW, and if I inferred otherwise then I apologise.

Personally, I like the public domain precisely because it offers challenges – as well as outstanding value, and often friendships. I wouldn't buy it up-and running form someone like me – or V A Hartland. The fun would be gone. Others though want to use it straightaway, and why not? for those users, bulletin boards are not so useful, hence the need for specialist – and usually small - machine-specific libraries.

Many PD programs are as good as their commercial counterparts; indeed very many have no commercial equivalent. And by the way, Victoria Marsden, you can really get a program for £4 or £5 – you might even get twenty or so. Try it, get a list from me or V A Hartland, and the other suppliers as well – or try a user group like PCW file and get it for nothing.

Mick Reed
Angmering

PEEKing

On my 9512, MERGing my dummy file with a protected BASIC file does not release the protection. Your PCW-IQ article in the December issue suggested this may be the case, but do you know how to overcome the problem?

"Desert Island Tipoff" on page 71 of issue 16 gives a PEEK address of 65404 as that of the seconds counter for use in the RANDOMIZE command. Why doesn't this work on the 9512?

In predictive mode, LocoSpell gave my new bank manager's name as "Walkover". Time to order the laser printer perhaps?

Arthur Wardell
Halifax

***8000* PLUS** *It seems that the ability to unprotect a protected BASIC file was a bug in the 8000 version of Mallard which has been fixed on the 9512, so no way I'm afraid. The PEEK address was misprinted – it should be PEEK 94504 – and works OK on a 9512.*

More discussions still

I was pleased to note that you are still exploding the myth surrounding CF2-DD discs (PostScript last month) and explaining that CF-2 discs can be used as CF2-DDs, but disconcerted to discover companies still advertising 'double-density' discs within your covers: KAVIN for instance, who offer 5 such discs for a mere £16.05 more than the same amount of CF2's. Is

High definition

Being off sick and unable to use my 9512, I have been reading back copies of PCW magazines. Although computer-illiterate and very Loco in my Script I am very interested in words. Much of what appears in the magazines is incomprehensible to me as a very simple word-processing creature.

However, I have amused myself by giving new definitions to some words and phrases found in your pages and wondered whether you might like to share them. I am sure that other readers can do far better in giving things a new twist.

buffer	ancient computer illiterate
chips	objects on other people's shoulders
continuous stationery	through-the-letterbox advertising
cursor	operator who has just experienced a crash
Daisy Wheel	1920's US film star
data file	back of an envelope
data base	back of several envelopes
DTPs	condition common to alcoholics and PCW operators
digitise	deliver a Harvey Smith
Dot Matrix	1920's Mexican film star
floppy disc	unsuccessful pop song
high level language	computer manager's reaction to a crash
mainframe	system where all High St suppliers charge same
mouse pad	skirting board
panasonic	wall-to-wall noise
olivetti	small inserts for martinis
qume	first name of Rhondda
sharp laptop	(too frightening to define)

John Green
Chatham

this an example of 'double density standards?'

Actually, this letter is just an excuse to ask if you eve considered running regular short stories in 8000 Plus? Well,at least I can do alliteration.

Buzz Rodwell
Ipswich

***8000* PLUS** *In response to our request for what people thought about having short stories in 8000 Plus – ie. whether they wanted to see them or not – we had an overwhelming response of one for, one against, and about fifty short stories submitted on the off chance. For the time being the idea has been shelved, sorry!*

Speccified

My children now want to use the word-processing for GCSE projects but I do not give them free access to my PCW. Instead I have set up their ZX Spectrum + (48K) so that they can type in their work and transfer it later to the PCW for embellishing, final editing and printing. At the Spectrum end we have interface 1 and the Tasword Two word-processing program and naturally we have the serial interface on the PCW.

I had great difficulty establishing the correct connections for the lead between the two. In fact they are fairly simple – pins 2,3,4,5 and 7 at the Spectrum end connect to their counterparts at the PCW end. At the PCW end pin 5 is cross connected to pins 6 and 8. The shop from which I bought my lead got it completely wrong.

The following routine (or something better) has to be inserted into the BASIC of Tasword and must be called when you want to transmit the Tasword text out of the RS232 port. Use the option to enter BASIC which comes up on the STOP menu.Type in the routine and then issue GOTO 9000. When you are happy that it works save Tasword in the usual way.

```
9000 LET z=0:FORMAT
"t";300:OPEN#5;"t": FOR
f=32000+a:
LET z=z+1: PRINT #5; CHR$
(PEEK f);: GOSUB 9050: NEXT
f: CLOSE #5:RUN
9050 IF z=64 THEN PRINT #5;
CHR$ (13):: LET z=0: RETURN
9100 RETURN
```

At the PCW end the incoming text can be sent to a file by either PIP, MAIL232 or 8256UKM7. Of course you must set up the Baud rate either from within the Comms programs or with SETSIO. To match the routine above it should be at 300. The default settings for parity, stop bits and bits will match those on the Spectrum.

If you are using PIP the only way of terminating the copying process is to take the [Q"string"Z] option and to place "string" at the end of your text file. EG to copy a file from the Spectrum to M:FRED put the string &&& at the end of your Tasword file and issue `PIP M:FRED=AUX:[Q&&&Z]` on the PCW. What arrives on the Amstrad is an ASCII file which can then be read into any word processor including Locoscript in the usual way.

You do not actually need Tasword to use the Spectrum as a means of typing in text. It is quite straight forward to write a program which saves typing in text. It is quite straight forward to write a program which saves typing to tape or microdrive cartridge for subsequent transmission to the PCW. But it is not as easy to correct errors as you type.

Dr Clive Roberts
Bristol

Printer repair

My daisywheel printer hammer stuck and it's being repaired under warranty: then the faithful original (October 1985!) dot matrix printer heated up and began to melt its case at the back... I was going to be stuck! In any case it needed the pins treated, a job I had been putting off.

So, off with the cover; the smell of melting plastic came from the back of the printer case just to the right of the power input cable. Closer inspection revealed a hot resistor which had apparently "bubbled" its covering. However, I also noticed that the inlet cable was twisted, and the small white plug/socket's latch was not quite right. Untwisting the cable and setting the plug right removed the overheating. I am glad I did not send it off for repair without investigating! It may yet repeat, of course, but all is cool as I write.

To do the print head I turned to the two back numbers where you mention repairing it yourself. Unfortunately when you printed the first one – the second is a copy – you forgot to say just HOW you get the printhead out of the carriage! After some hours and dismantling of the carriage bars, the print head slipped off the carriage! I now know how SIMPLE it is and it may help others to know that all you do is:

1. Prise up the bright metal clip behind the printhead, which appears only to hold down the copper input ribbon (but actually holds the printhead forward as well).
2. Ease the printhead backwards towards you and lift it out to clean/dismantle as per article.

When taking the printhead apart, beware pins which fly out under pressure of their return springs – and disappear by attaching themselves to the magnet in it! (it saves a lot of grovelling on the floor).

Christopher Leffler
Ipswich

Printer problems

Your readers should be warned: disassembling the PCW printer head to clean it is more difficult than the tip-off you printed in February 1988 and again in October would suggest. According to Ike Dawson, the whole procedure takes half an hour. It took me six hours, and a great deal of hair torn out at the roots. Taking the head apart was no problem, but getting the pins back again...

I was presumptious enough to get Mr Dawson's phone number from Directory Enquiries and ring him about it, and he was very helpful, but I still feel that one of you underestimates the difficulty of the task for the average reader. I had no trouble in doing a DIY memory upgrade or B: drive installation my PCW, but at least the instructions for those tasks were complete!

Please emphasise to your readers that the nine pins all have different shaped tails, although this isn't obvious until after you've removed them. Drawing a circular diagram with the pin tail positions on it is essential, but so is keeping the pins in exactly

Double standards

It seems surprising that the huge character set of LocoScript 2 does not include anything (apart from a row of = which isn't too good) that can be used for double underlining.

Dave Sinclair
Glasgow

***8000* PLUS** *Well, you can fake it pretty well in LocoScript 2. Underline your headline using (+UL) as usual and at the end of the line set the line space to a half with (+LS½). On the next line enter dash characters ([ALT] plus hyphen) to the width of the headline and end with (-LS) to return to normal spacing. The effect is very nice.*

Pole position

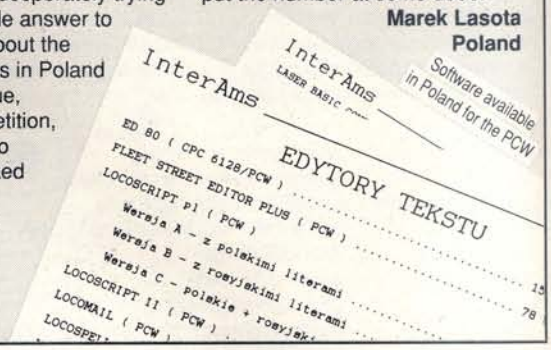
I have never seen another PCW magazine than 8000 Plus, so this is probably why I cannot imagine anything better. But I have read other computer mags, like Compute!, Sinclair User of MiPC, and you are definitely the most informative, data-packed and also entertaining of them all.

8000 Plus is especially valuable for me in Poland, where it is really hard to find additional information on what I can do with the software supplied with my PCW except for word processing. I have bought Amsoft's "Guide to Mallard Basic", but it says only a half of the story, as I can see from your pages. Even those little LocoScript tip offs are interesting, although some of the tricks are not so surprising if you have cared to read the Locoscript manual (eg "small is beautiful" in the October issue).

As regards PCW software in Poland, there is quite a number of titles available. But again, supporting information is scarce, particularly when you buy pirated copies. (They cost a fraction of what the enclosed leaflet specifies.) The funny thing is that all copies are pirated, and it is still legal in Poland to sell them in the open. This is going to change soon, because of the mounting complaint from Polish software writers, in this situation 8000 Plus is simply invaluable.

I have been desperately trying to find a plausible answer to your question about the number of PCWs in Poland (September issue, ComStax competition, page 5) but to no avail. I have talked to Amstrad editors at major computer magazines here and to the British exporter of PCWs to Poland. The first did not know and the latter did not want to say, but both suggested several thousand. So, I would tentatively put the number at some 8000.

Marek Lasota
Poland



the same order as you removed them – all you printed was "carefully withdraw the pins and lay them on a circle", which doesn't exactly emphasise the vital importance of this. There are up to 99 possible combinations of pins, and not many of these will work.

You also didn't mention that a wrongly-placed pin can get trapped under the leaf spring, and prising it out with the tweezers can easily cause all the other pins to fly out as well (as happened to me more than once). Unless your printer head is very badly clogged up, I would recommend taking its back off and dousing the pins with WD40 without removing them: it should still run through to the bottom and help quite a bit. Don't take the pins out unless you have plenty of spare time!

John Hudson
Tyne & Wear

"HE'S ALWAYS LIKE THIS WHEN PROPUNTER SAYS THERES NO CHANCE OF WINNING"

Pro-punter

Playing the horses is a mugs game and well the mugs know it. There are however a select few who profit, they are the form students who spend hours studying. Unfortunately there are no short cuts to this study beyond the help of a computer and sophisticated form analysing programme.

It was on the strength of the review in 8000 Plus that I invested in Pro-Punter. This review left many with the belief that it was a program intended for those seriously interested in horse racing who could gain many advantages from a form analysis programme.

If this is what I believed, then the reality was far from the truth. Pro-Punter is pathetic as a program and about one step removed from someone who has just learnt the basic art of programming. A simple wrong keystroke in the last input stage can result in a syntax error and lock-up; hours of wasted effort.

I have spend fifty hours with Pro-Punter and in all that time it has yet to recommend a bet. So if it averages 60% winners, then I would like a list of all that has been supposedly proofed to the press or I want my money back.

If the fact has to be spelt out: the input time alone must rule out Pro-Printer. A six race meeting of normal fields required 24 hours at the keyboard. Four meetings would take 96 hours at the keyboard. All of which is information that comes from the daily press.

Walter Parsons
Royston

More protexts

Regarding Mr (Mrs, Miss, or a mixture of all three) Ruddock's enquiry in PostScript (p87 Nov 88) as to how to transfer Protext files to LocoScript, whilst your answer may or may not be feasible, it is quite certainly unnecessarily complicated.

If M S Ruddock looks at page Word 4-5 of the manual, he (she,it) will find the Printf (PF) command. Use this instead of Save being particularly careful to use the stored command >ZM (page Word 2-30) at the beginning of the file to be transferred to Locoscript, and the text will be saved to disc in pure 'ASCII' form; all ready to be imported into the railway word-processor, without the slightest need for the somehow dubiously sounding manipulation of Greek hieroglyphics.

John Smart
Hitchin

8000 PLUS *What, you don't believe the manual do you? (Omnes laughter). The PF command produces page image files with a hard return at the end of every line. You can weed out every one in LocoScript but it takes years. The ZM command makes no difference to this on any version of Protext we've got (I just tried it again and it didn't work). The original method stands.*

Print solutions

I have recently become the owner of an Amstrad PCW8256 and am gradually coming to grips with its intricacies. However, there is one problem that I do not seem able to solve so I am hoping that you will be able to supply the answer.

When using Mallard BASIC, although I can get a hard copy of the run of my program by asking whether this is required at the beginning of the program and setting a marker, it seems to be a very laborious method and involves duplicating all the print statements with LPRINT statements. With other versions of BASIC on many other machines, it is always possible to use some command that allows the screen output to be echoed to the printer (eg VDU2 and VDU3 on the BBC).

Ms Eaun Davies
Penarth

8000 PLUS *While not possible on a 9512, it's easy on an 8000. The command* POKE 8792,205 *before a program will send all screen output to the printer.* POKE 8792,195 *reverses this.*

Snap

In the PostScript section of the November issue of 8000 Plus you print a letter from a correspondent in which she mentions the use of SOPHOS, 'A splendid cataloguing system for my photographs'.

I've not come across any mention of this program before. As a keen photographer I would be interested to know more about this or any other program specifically designed for cataloguing photographs.

John Mottram
London

8000 PLUS *Fotofile costs £29.95 and is available from Sophos on 034 123376.* ■

"... AND THIS KEY LISTS ALL THE BEACH SHOTS..."

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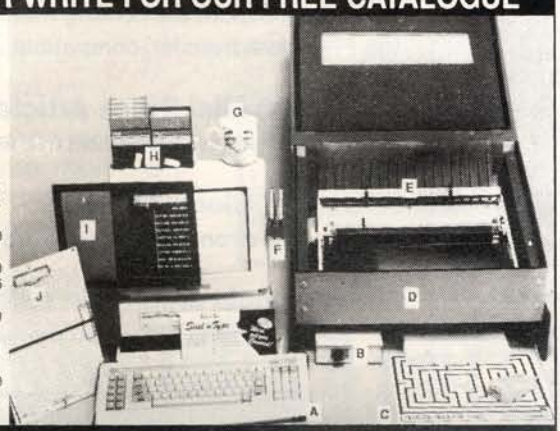

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Save and Print
Abandon Edit
for 8000 Plus and o

The wag in the tail: a new regular page starting this month. Sorry.

Hypocritic oath?

Do you ever get suspicious of those adverts which show famous people drinking coffee, and bet that they don't actually drink that brand at home? Do you further suspect that the 8000 Plus team, while telling everyone how to use their PCWs, do not in fact use PCWs themselves?

Don't worry. Not only is 8000 Plus written entirely on 8512s and 9512s (using Protext), but at home Steve Patient uses an expanded 8256, as well as a CPC 464 and a Bondwell 14 portable; Sharon Bradley has an 8512; Rob Ainsley has an 8512 and a Z88.

Not only that, but Art Editor Kim Bale has a 9512 and ad person Elaine Brooks is buying an 8256. Also the advertising department have bought an 8256 for their mailshots. But none of us drink Nescafé. (Or was it Maxwell House – or Red Mountain? Memo: sack the ad agency.)

Vive la différence

Walk into any newsagents and you'll see 8000 Plus, along with the other computer magazines, on the row underneath the soft porn. The worrying thing is that all the leering, unshaven, unsavoury-looking individuals in grubby raincoats there are leering at the computer mags.

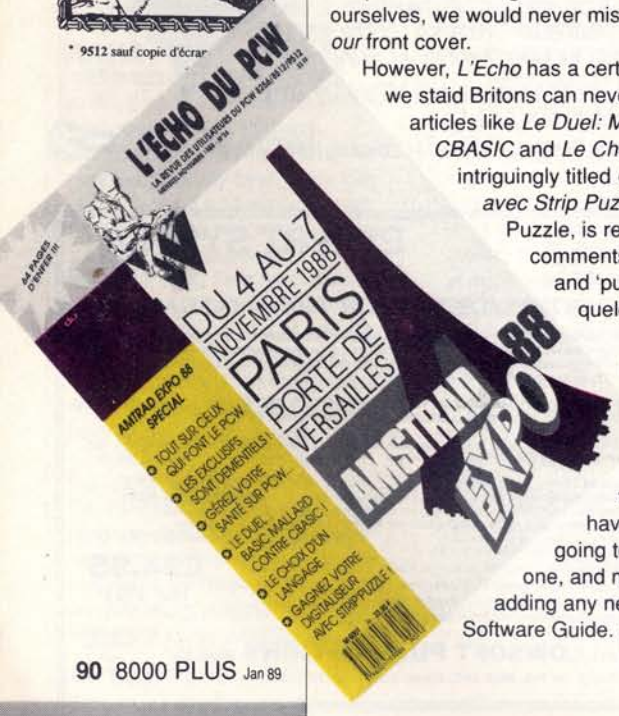
Soft porn and computing? A souvenir given to us from the Paris Amstrad show was *L'Echo du PCW*, a French Amstrad magazine. For 33F (about £3) you get *64 PAGES D'ENFER*. Eh? 64 pages of Hell?

8000 Plus, we note smugly, has 92 pages or so for half the price. And though we occasionally make mistakes ourselves, we would never mis-spell the word 'Amstrad' on *our* front cover.

However, *L'Echo* has a certain Gallic dash about it which we staid Britons can never hope to emulate. In among articles like *Le Duel: Mallard BASIC contre CBASIC* and *Le Choix d'un Language* is the intriguingly titled *Gagnez votre digitaliseur avec Strip Puzzle*. The program, Strip Puzzle, is reviewed warmly, receiving comments such as 'plaisir guaranti' and 'puzzles sexy très réaliste... plus quelques surprises'.

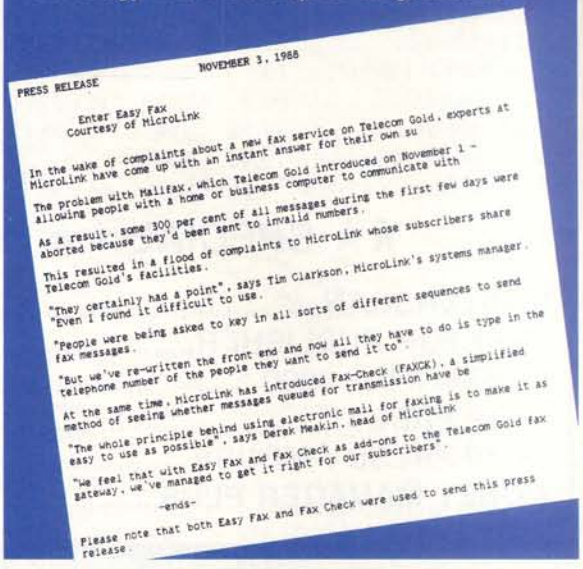
Before all you feminists paste together standard letters of abuse to us, yes we think it's tacky too and no we're not going to review it in 8000 Plus. And to everyone else, no we haven't got a copy, no we're not going to tell you where you can get one, and no, we're not thinking of adding any new sections to the Good Software Guide. C'est la vie. ■

* 9512 sauf copie d'écran



Useless fax

This fax arrived at one of our sister magazines extolling the virtues of faxing by electronic mail, which as we all know, is fast, cheap and perfectly reliable, har har. Do not adjust your set and remember: this is progress. This is the age of technology. This is the shape of things to come.



PRESS RELEASE NOVEMBER 3, 1988

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As a result, some 300 per cent of all messages during the first few days were aborted because they'd been sent to invalid numbers.

This resulted in a flood of complaints to MicroLink whose subscribers share Telecom Gold's facilities.

"They certainly had a point", says Tim Clarkson, MicroLink's systems manager. "Even I found it difficult to use.

"People were being asked to key in all sorts of different sequences to send fax messages.

"But we've re-written the front end and now all they have to do is type in the telephone number of the people they want to send it to".

At the same time, MicroLink has introduced Fax-Check (FAXCK), a simplified method of seeing whether messages queued for transmission have be

"The whole principle behind using electronic mail for faxing is to make it as easy to use as possible", says Derek Meakin, head of MicroLink

"We feel that with Easy Fax and Fax Check as add-ons to the Telecom Gold fax gateway, we've managed to get it right for our subscribers".

-ends-

Please note that both Easy Fax and Fax Check were used to send this press release.

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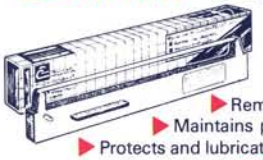

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